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# JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

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**THE SEVENTY-SECOND ANNUAL CONVENTION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN BUFFALO, N. Y., DURING THE WEEK OF AUGUST 25TH.**

**The 1924 meetings of the American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy will also be held in Buffalo, during the week of August 25th.**

For Association Roster see pages x, xii and xv.

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JOHN HUGH WEBSTER

DETROIT, MICH.

President of the National Association of Retail Druggists.

JOHN H. WEBSTER.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. XIII JANUARY, 1924 No. 1

## JOHN HUGH WEBSTER.

The activities of the President of the National Association of Retail Druggists, John Hugh Webster, answer many questions that enter into discussions by retail pharmacists and teachers of pharmacy—there need be no incompatibility between the practice of pharmacy and the conduct of the modern drug store, and there is no reason why all pharmacists and all druggists should not have a part in the development of American pharmacy and in the work of organizations representing the divisions indicated.

Mr. Webster is a pharmacist and a successful business man; he is chairman of the Committee on U. S. P. and N. F. propaganda of the N. A. R. D. and a delegate of that organization to the National Conference of Pharmaceutical Research. He is a member of the American Pharmaceutical Association, active in local business organizations as well as those of the profession; he has been president of the Detroit Retail Druggists' Association and of the Michigan Pharmaceutical Association, and is a member of the House of Delegates, A. Ph. A. He is informed on matters relating to legislation, is willing to give information and participate in the work of associations for their advancement and the benefits he can rightfully accept and enjoy because he has contributed thereto. He affiliated with the N. A. R. D. and A. Ph. A. during the same year, 1911; he is qualified by experience and education in the technic and science of pharmacy—is a retail pharmacist and a successful drug store owner—"representative of the best" in retail pharmacy, as stated in a recent sketch.

Mr. Webster is forty-three years of age; we do not know whether he is a native of "the Lake State," but he has grown into the social, business and professional life of Detroit, and is one of its highly esteemed citizens.

E. G. E.

# EDITORIAL

E. G. EBERLE, Editor 253 Bourse Bldg., PHILADELPHIA

## HAVE FAITH IN PHARMACY.

RECENTLY one of the large dailies carried an editorial entitled "Have Faith in America," another editor wrote of "Inventory Time," and both editorials implied that the American who "sells the United States short" is steeped in foolishness. This is the time for retrospection, introspection and prospection, hence the title chosen is a timely one for pharmacists. The greater opportunities before us require that the belief and faith in pharmacy be put into more general practice, and within ourselves is every factor for successfully carrying into effect the plans made at the two last annual meetings of the American Pharmaceutical Association.

The purpose of extending the services of the Association is closely associated with that of establishing headquarters so that the work demanded may be systematically carried forward; it requires that the faith of the members and pharmacists generally be evidenced in the mission and greater opportunities of pharmacy.

The message following this comment, and outline of some of the activities for creating the Headquarters Fund, expresses faith based on what has been accomplished, what should be done, and what it is possible to do and will be done. It is the custom of human kind before entering upon a new or important undertaking to pause for a little space and "take stock"—to look back at the past and consider the future. So in the résumé of some Association achievements the past and present and the greater future for pharmacy receive thoughtful consideration; it embodies a confession of faith in pharmacy, a call to duty which implies to do no less than has been done, and reveals greater possibilities for pharmacy in which all pharmacists should have a part, by sharing the responsibilities and profiting by the opportunities.

At a meeting of the Board of Directors of the American Pharmaceutical Association held in Washington, December 7, it was planned to add to the Headquarters Building Fund Committee, of which James H. Beal is chairman, a Campaign Committee of which H. A. B. Dunning was named chairman. It is contemplated to raise $500,000 which will provide for the building and equipment and an endowment fund for maintenance and promoting the activities of the Association.

The Headquarters Building Fund Committee consists of J. H. Beal, chairman, John G. Godding, Leonard A. Seltzer, E. L. Newcomb, Charles H. LaWall, William B. Day, H. S. Noel, Jeannot Hostmann, W. H. Zeigler, Joseph L. Lengfeld, E. F. Kelly, H. M. Whelpley, George W. McDuff, F. H. Freericks. Provision is also made for an Advisory Committee, to be composed of more than a hundred leaders of American pharmacy and representative of all of its phases.

The Campaign Committee consists of H. A. B. Dunning, chairman, E. F. Kelly, S. L. Hilton, E. L. Newcomb, W. Bruce Philip; publicity editor, E. L. Newcomb; director of propaganda, A. M. Hayes; business manager, F. C. Bortner; treasurer, E. F. Kelly; and a chairman for every State.

While some large gifts have been made and others are in prospect, it is expected that all pharmacists will avail themselves of the opportunity of contributing to the

fund. Gifts of $100 or more may be divided in ten semi-annual payments covering a period of five years. Contributions from non-members of the A. Ph. A. of $25 or more will entitle the contributor to one year's membership in the Association, and all members contributing $1000 or more, will be entitled to a life membership. Some of the gifts made to the fund and building are noted on page 837 of the October JOURNAL A. PH. A.

The individual or the profession renders the greatest service that coöperates to give the largest number the greatest opportunity for development, contributing the best service to humanity and thereby adding to the wealth and health of civilization. E. G. E.

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## THE AMERICAN PHARMACEUTICAL ASSOCIATION HEADQUARTERS BUILDING.

THE worth-whileness of the project to establish a Headquarters Building to permanently house the various activities of the American Pharmaceutical Association must be self-evident to anyone who stops to consider its past and present services to pharmacy.

It fathered and created the State pharmaceutical associations, and has been the constant and consistent champion of the organization of all branches of the drug trade.

It formulated the first pharmacy laws, and its model drafts have been the source of the material embraced in practically all the State pharmacy acts of the present day.

It rescued the "United States Pharmacopœia" from comparative obscurity, and possibly from complete oblivion, and it is largely due to its labors that this book has become the leading official standard for drugs and medicines of the present age.

It created the "National Formulary" out of a work of purely local importance, and brought order and system out of the chaos of conflicting formulas with which the drug trade was formerly afflicted.

It was responsible for the adoption of the United States Pharmacopœia and National Formulary as the legal standards of the Federal Food and Drugs Act, thereby saving the entire drug trade from the burden of bureaucratically created standards for drugs and medicines.

It has not selfishly sought to monopolize the entire field of drug organization, but has encouraged the formation of national associations representing the separate branches of the drug trade, and has cordially joined hands with those divisional organizations in advancing their special lines of work.

It called into existence the National Association of Boards of Pharmacy that already has done so much to standardize and bring order and system into State board examinations, and to make inter-state recognition of certificates general and practicable.

It created the National Drug Trade Conference, composed of representatives of all national drug trade organizations, that has been so largely successful in adjusting and preventing antagonism between the different branches of the trade,

and has afforded the means of presenting the claims of the drug trade as a unit mass at Washington.

Its 59 volumes of ANNUAL PROCEEDINGS, 6 volumes of the BULLETIN, 10 volumes of the YEAR BOOK, and 12 volumes of the JOURNAL embrace a total of over 65,000 printed pages, which can safely be said to constitute the most complete and comprehensive compilation of information relating to pharmacy and its allied branches issued by a single institution in the English language, if not in any language.

There is no field of pharmaceutical endeavor in which this Association has not labored diligently and effectively, and there is no individual or institution that produces, buys, sells or uses drugs and medicines that is not indebted to the AMERICAN PHARMACEUTICAL ASSOCIATION in greater measure than it can ever hope to repay.

Its work has been altogether altruistic, without desire or expectation of material reward, and has been accomplished by the self-sacrificing endeavors of a host of earnest laborers.

It is, therefore, altogether fitting that those who have received so much from the Association should contribute to a *Headquarters Building*, both to serve as a monument to the many unselfish members who have served the cause of pharmacy so efficiently and to provide the facilities that will enable the Association to render still broader and more valuable services to coming generations.

Among the facilities intended to be provided in the Headquarters Building are the following:

(1) Office quarters for the General Executive Officers and Editors of its various publications, with ample storage room for surplus volumes of PROCEEDINGS and other publications.

(2) Office space for the Executive Officers of such other national drug organizations as may desire to avail themselves of such facilities.

(3) An Historical and Research Library where there can be gathered and preserved for reference the literature pertaining to pharmacy, both past and present.

(4) An Historical Museum where can be preserved the scattered implements and articles showing the development of pharmaceutical art, and which without such a place of permanent preservation will be lost forever.

(5) One or more specially equipped Research Laboratories for the study of research problems connected with the revision of the "United States Pharmacopœia" and "National Formulary," or researches having any other direct and practical application to pharmacy.

At the close of the last annual meeting at Asheville, something over $50,000.00 had been pledged towards this splendid project, which should be swelled to at least $500,000.00 by the opening of the Convention at Buffalo in September next.

The particular city in which the proposed Headquarters Building is to be located has not yet been chosen but, in accordance with the democratic theory and practice of the Association, will be selected by a free vote of the entire membership after a consideration of the claims and advantages of the several cities that may seek to become the site of this splendid monument to American pharmacy.

# IMPROVED PHENYLHYDRAZINE TEST FOR FORMALDEHYDE.

BY A. B. LYONS.

In an exhaustive study of the tests which have been proposed for the detection of formaldehyde, Gettler* assigns high rank among color tests to those in which phenylhydrazine is employed as a reagent. The most distinctive of these is that in which sodium nitroprusside is used conjointly with the phenylhydrazine. These reagents are added in succession to the highly dilute formaldehyde solution without noticeable immediate effect. The further addition of sodium hydroxide in slight excess produces in the solution at once a blue color which soon gives place to a succession of hues ending in a comparatively permanent red.

The reagents used may conveniently be made of the following concentrations: Phenylhydrazine hydrochloride, 1%; sodium nitroprusside, 2%; sodium hydroxide, 5%. Of the first two, the quantity required is a single drop—as measured by a pipette which delivers to each cc. 32 drops of distilled water at 25° C. A convenient quantity of the suspected aqueous solution is 0.5 cc. or less of a solution containing 0.04% of formaldehyde to which may be added 1 cc. of distilled water. In case turbidity is produced within one minute on adding the reagents, a smaller quantity of the sample should be used for the test. At all events, it is best in any case in which incipient precipitation is observed before the sodium hydroxide is added, to make a new test, diminishing the quantity taken of the sample.

The color changes through greenish to amber shades, becoming finally red. The time required for completing the cycle of changes varies from one or two to twenty minutes or so. I believe that it may be conceded that this is the most satisfactory color test that we possess, becoming practically conclusive if confirmed by the egg albumen and apomorphine tests.

A second phenylhydrazine test, devised like the foregoing by A. Muth, employs with the phenylhydrazine, ferric chloride together with hydrochloric acid. Details of the routine for carrying out this form of the test are not at hand. Empirically I have arrived at the following as a practical *modus operandi*. To 1 cc. of the suspected sample add from a pipette which delivers to the cc. 32 drops of water, 1 drop of a 1 per cent. aqueous solution of phenylhydrazine hydrochloride (freshly prepared and filtered), 1 drop of a five per cent. solution of ferric chloride $(FeCl)_3$, 3 drops of a ten per cent. solution of sodium chloride and 5 drops (from a pipette which delivers 70 drops to 1 cc.) of sulphuric acid. More or less rapidly the solution develops a vivid red color, the tint depending on the quantity of formaldehyde present.

For reasons not evident the depth of color varies in an erratic manner even when care is taken to adhere strictly to the routine procedure selected. A fairly strong reaction may be expected in a solution containing one part in 25,000 of formaldehyde, and this is by no means the limit. In some experiments I have obtained a recognizable color when the solution was of only one-fourth that strength.

The ferric chloride in this test may be replaced by almost any soluble ferric salt, including the soluble phosphate, the solution containing the same iron percentage.

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* *Journal Biological Chemistry*, 42, 311-328, 1920.

The red color of the solution is not discharged by mere dilution with water, as in the peptone or egg albumen tests. It is, however, nearly or quite destroyed by supersaturation of the acid by sodium hydroxide, a precipitate of ferric hydroxide being thrown down.

The test may be advantageously modified by substituting for the ferric chloride, potassium ferricyanide—one drop of a 1% solution to 1 cc. of the sample tested, or a suitable dilution thereof. The characteristic red color appears promptly and generally in greater intensity than when ferric chloride is used.

The behavior of the red compound towards neutral solvents is interesting and gives us confirmatory evidence of its identity. If the red solution is shaken out with petroleum ether, its color is at least in part discharged. The shaking out may be repeated with several successive portions of petroleum ether, the color of the solution thus obtained being orange-yellow. Excess of acid may be washed out of this yellow solution by repeated shaking out with distilled water. Otherwise the solution may be rendered neutral or even alkaline and then extracted by shaking out with petroleum ether. The ethereal solution in either case is to be evaporated in a porcelain capsule. If the solution is free from acid, the residue will be of a yellow or orange color. If the acid has not been all washed out the residue when completely dry will show more or less of a violet-red color. If the residue is wholly yellow or orange colored, bring close to the interior of the capsule the stopper of a bottle containing strong nitric acid, and watch the change to violet-red of portions of the yellow residue.

This constitutes so far as I can learn a wholly new feature in the phenylhydrazine test for formaldehyde and suggests the possibility of increasing indefinitely the sensitiveness of the test, by simply operating on a relatively large quantity of the suspected sample. We may use, instead of 1 cc. of the solution, 10 or 20 cc. concentrating thus correspondingly the color indication of the presence of formaldehyde —possibly even enabling us to separate thus a definite chemical compound known to result from the reaction of phenylhydrazine with formaldehyde.

Still another modification of the phenylhydrazine test I have worked out which resembles in its results that just described. In this ammonium persulphate is employed in place of potassium ferricyanide. Sulphuric acid is used as in the other forms of the phenylhydrazine test but there is distinct advantage in using also a small quantity of a chloride furnishing thus potentially hydrochloric acid.

In case of a solution containing 1: 2500 of formaldehyde, use 1 cc. of the solution, 3 drops of a 10% solution of sodium chloride, 2 drops of a 2% solution of ammonium persulphate and 10 drops of strong sulphuric acid, these proportions subject to modification in the light of further experiments. The color resulting is not distinguishable from that produced in the foregoing form of the test. The red solution may be extracted with petroleum ether in the manner above described, observing, however, that more water may be required to remove the acid on account of the rather sparing solubility of the ammonium persulphate.

Some other oxidizing agents may be substituted for those I have experimented with—possibly to advantage.

It remains to study the practical adaptation of the tests under discussion to the detection of methyl alcohol in alcoholic beverages.

SUMMARY.

Among the most useful color tests for detection of formaldehyde are those in which phenylhydrazine is a principal reagent.

This paper describes two new modifications of one of these color tests. In the first potassium ferricyanide takes the place of ferric chloride, having the advantage of rapidity of operation as well as fuller development of the characteristic color.

In the second the subsidiary reagents are ammonium persulphate and sodium chloride. In both sulphuric acid instead of hydrochloric acid is used.

An original method of isolating the red coloring substance by extraction with petroleum ether or similar immiscible solvent is described, applicable to all three forms of the phenylhydrazine test No. 1 of A. Muth.

LABORATORY OF NELSON, BAKER AND CO.,
NOVEMBER 21, 1923

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# THE USE OF INSULIN IN THE TREATMENT OF DIABETES MELLITUS.*

BY ROBERT W. KEETON.

It is proposed in this paper to discuss very briefly, from a historical viewpoint, the methods available for the treatment of diabetes prior to the introduction of insulin, the mechanism of insulin action, the clinical situations in which insulin has proven valuable, and a few questions of practical interest to the pharmacist.

## DIABETIC TREATMENT PRIOR TO INSULIN THERAPY DIET RESTRICTION—FASTING.

This period extends from the time of the earliest investigators to 1919 and 1920. It was characterized by a wide variety of methods of management. The very multiplicity of these methods suggested that the key to the problem was still hidden. Out of these attempts grew some very thoroughly established clinical facts upon which all these methods were based. These may be stated:

1—Carbohydrates added to the diet of a diabetic who is showing sugar in the urine cause an increase in urinary sugar.

2—Fats added to the diet may cause the appearance of acetone in the urine or increase the quantity if it is present.

3—The diabetic gains in tolerance, if his urine can be maintained sugar-free. Conversely when sugar is persistently present in the urine the tolerance of a patient decreases.

4—Uncontrolled diabetes is a progressive disease and in the young often advances to a rapidly fatal termination.

With these facts before them the students of the subject were led, in all of their efforts to combat the disease, to the principle of diet restriction. The quantity of food fed must fall within the limits of the patient's tolerance. Van Noorden [1] was accustomed to use one or two fast days to prevent coma and he describes the immediate rapid fall of acidosis resulting. He spoke of these days quite aptly

*Read before November meeting of the Chicago Branch of the American Pharmaceutical Association.

as "Metabolic Sundays." Naunyn [2] used a single "Fast Day" to clean up cases showing a resistant glycosuria. He also introduced the days, on which only green foods were served, as "Green Days." Guelpa [3], in 1909 and 1910, reported a series of 33 cases of diabetes treated successfully by fasts of three to four days' duration combined with the free use of cathartics (a bottle of Hunyadi Janos water). After desugarization he instituted a vegetable diet for two weeks, and he pointed out that such a diet continued in effect the fasting régime previously established. He further showed that he had found it necessary to repeat these periods of fasting three to four times in handling a given case over a year's time. His work failed to gain the recognition which it deserved because of the polemic on the value of purgation into which he was led. In 1915 Allen [4], working in the hospital of the Rockefeller Institute, applied this principle of fasting to a series of very severe cases. He showed that fasting was not only a safe but a decidedly practical measure for desugarization. Such fasts lasted from one to seven days. If the patient was not sugar-free at this time, he was fed up and fasted a second time. Joslin [5] has modified this procedure by first omitting the fats from the diet, then the proteins, and finally the carbohydrates. A week or ten days may be required to establish the patient in a complete fast. After desugarization the diet was built up slowly until the patient began to show sugar in the urine. This point determined his tolerance. If it was high enough to give him a maintenance diet then he would get along quite satisfactorily, otherwise he could only look forward to spending the short span of remaining years as comfortably as possible.

### REPLACEMENT DIETS.

The second era of diet adjustment began with the studies of Newburgh and Marsh [6] in 1920 and 1921. They showed that a moderately severe diabetic would desugarize more readily or at least equally as readily if he were put on a very low calorific diet, which contained large quantities of fat, than if he were allowed to fast completely. In this type of diet the quantity of fat fed was often five times that of the carbohydrate. Formerly it had been considered the gravest error to use a diet in which the ratio of fat to carbohydrate was over two to one if the calories were below 1000. This teaching proved to be a veritable bombshell thrown into the ranks of those handling diabetes, the acceptance of which has waited upon a more complete understanding of the rationale of its action.

About this same time Shaffer [7] was studying the problem of acetone body formation and destruction (Ketogenesis and anti-Ketogenesis). He showed that when glucose is oxidized by hydrogen peroxide in alkaline solution aceto-acetic acid, if present, is also oxidized rapidly, whereas in the absence of glucose, aceto-acetic acid under otherwise the same conditions is rather resistant to oxidation. He concluded that one molecule of glucose accelerated the oxidation of one molecule of fatty acids. This in reality constituted the first experimental evidence of the rôle played by glucose in acidosis and furnished the first quantitative evidence on which a rational system of diet regulation might be founded.

During the spring of 1921, Woodyatt [8] attacked the problem from another angle. Prior to this time diets were planned on the basis that three distinct types of food were available and that these independently affected in certain ways the metabolism of the patient. Thus the clinician fed the patient so many grams of

protein per day, but he lost sight of the transformations of the protein after it once entered the body. It had been definitely established by the studies in the nutrition laboratories that certain integral parts of the protein molecule (amino acids) are transformed into sugar, but the clinicians had not made use of this knowledge. So by a study of the available data, Woodyatt was able to construct formulas which expressed these transformations within the body. To the diabetic there are two important derivatives of food, glucose and fatty acids. Two diets apparently widely different in composition were shown to yield the same number of grams of glucose. The same findings were shown to exist with respect to fatty acids. Woodyatt was now in a position to apply to the other known laws of metabolism the studies of Shaffer with respect to fatty acid destruction and to prescribe an optimal maintenance diet, a diet on which a state of acidosis would not

Flame No. 1.—Diabetic flame.

develop. The diets of Newburgh and Marsh showed much higher ratios than Shaffer's experiments would suggest and they were higher than the ratio derived clinically by Woodyatt. However they were of low caloric value and were designed to replace the period of fasting which was advocated by Allen and Joslin. Other observers tested out these diets and found that they lost their usefulness if their caloric value were increased to cover a maintenance work requirement. So Woodyatt derived the conception of a "Replacement Diet" and has defined it adequately. We need not at this time consider its definition in detail.

If a patient is fasting his metabolism is depressed but not stopped. He will derive energy from the food stored in the body tissues. Now if fasting will desugarize a patient, then the patient may be fed the same quantity of food that he would burn out of his tissue storehouse and he will desugarize equally readily.

This, then, is the reason that many of the Newburgh and Marsh diets worked well. They were replacement diets. The second period, then, of diabetic treatment was characterized by the development of fundamental conceptions of the construction of optimal maintenance diets and the development of the conception of "Replacement Diet."

MECHANISM OF INSULIN ACTION.

If we now direct our attention to the two diagrams presented we have a good conception of the way in which insulin acts. Flame No. 1 may be designated the diabetic flame. It will be noted that there are some coals of fire present which represent fuel in the process of complete combustion. The quantity of coals is small showing that in a diabetic there may be only a very small amount of food

Flame No. 2.—Normal flame.

undergoing complete oxidation. If these coals become extinguished death supervenes. On top of these are two types of kindling. One is lighter in color and is labeled "Unchanged Kindling." It is exposed to the coals and is surrounded by the flames, but it is not burning. This represents the sugar present in the tissues which has escaped oxidation and which will appear in the urine. The second type of kindling is dark in color. This is soaked in oil and is burning quite actively. The oil represents the insulin which has soaked into the glucose and has converted it into a form which will burn readily. The oil-soaked kindling therefore may be spoken of as insulin-soaked glucose or activated glucose. This fuel will undergo complete combustion and form the bed of coals. Then there is a back log which is smouldering and giving forth clouds of smoke. It is out of proportion to the coals and fire beneath it. This log represents the fats present either in the diet or body

tissues. The smoke may be spoken of as the acetone bodies. In this group are included β-hydroxy-butyric acid, aceto-acetic acid, and acetone. The quantity of heat generated by such a flame is small, and so the transformation of this heat energy into steam by the kettle is small. The energy therefore which the diabetic body can develop is usually not large, and as will be seen later is very definitely limited. All forms of treatment, therefore, have as their object the development of a quantity of steam from the kettle which will prove adequate. In flame No. 2 we have the representation of a diabetic flame which has been transformed into a non-diabetic or normal one. The bed of coals is large. All the kindling (glucose) has been soaked in oil (insulin) and is burning completely. The back log (fat) is commensurate with the size of the fire beneath. It is burning cleanly without the production of smoke (acetone bodies). The energy developed through the agency of the kettle as shown by the escaping steam is abundant.

Suppose we refer to the sketch of the diabetic machine and consider what methods were available in the pre-insulin days for treating diabetes. The patient was desugarized by a period of complete fasting or by a period in which he was fed a replacement diet. In other words the sticks of kindling which were not burning and which represent the unburned sugar, present in the tissues and urine, were first removed from the fire. The back log of fat which was out of proportion to the quantity of active coals was replaced by a log of fat of smaller size. The flame was now burning cleanly and oxidizing to completion all the fuel fed. Its size had been reduced but the intensity of the flame had been increased. The patient no longer had sugar and acetone bodies appearing in the urine and accumulating in his tissues. He was in perfect balance, but he was a bed patient. The flame was not sufficiently large to furnish energy adequate for work. Next his tolerance must be established at a higher level. To do this the bed of coals was made greater by adding cautiously small sticks of kindling (sugar) until the flame was of sufficient intensity to allow an increase in the size of the back log. The kettle then boiled vigorously and the patient's tolerance was now established at the requisite level. If after the most careful management the fire could not be built to a size which would furnish adequate energy for work then the treatment of this period had reached its end. It had nothing further to offer. Expressed in the language of the clinic, we would say that when a patient's tolerance had attained its maximum, and when it was found that this tolerance was so low that an optimal work maintenance diet could not be constructed, the patient was diagnosed a hopeless diabetic. Either he must materially reduce his activities or remain permanently in the diabetic state.

With the advent of insulin theoretically a very simple means is offered for converting this smoking inefficient diabetic machine into a clean-burning normal machine producing adequate energy. The insulin, which is represented in our scheme by oil, can now be administered directly to the flame. It can be literally poured on the coals. The unburned kindling (glucose) will become soaked in it (insulin) and immediately burst into flames. The back log of fat will be ignited and the smoke will disappear. We therefore are not now limited in the size of the fire which we can build. We will build a flame at will which will produce the quantity of energy desired. Practically, however, it is not so easy to do this as it would seem from such a study.

CLINICAL SITUATION IN WHICH INSULIN HAS PROVEN VALUABLE.

1. *Acidosis.*—In acidosis the flame is almost extinguished by the smouldering back log of fat. There may be also a large amount of kindling (sugar) which is not burning. In this case the urine and all the tissues will contain quantities of sugar in addition to acetone bodies. This represents the usual case of acidosis. On the other hand the sugar may have been previously withdrawn from the patient and he may be in a state of profound acid intoxication and yet not show any sugar in the urine. Before insulin was available many good men treated such cases with huge doses of alkali and water by mouth. The alkali neutralized the acids. In terms of our diagram it simply decolorized or detoxicated the smoke. The water served to dilute the smoke. These measures gave the fire an opportunity to revive spontaneously. They did not correct the fundamental defect in the flame. With insulin we have a means available of stopping the formation of these acid bodies. It will be recalled that insulin changes the sugar in such a way that it will be oxidized or burned. It does not change the fats primarily. Consequently if insulin is to be effective there must be present in the organism an adequate supply of sugar. Just here the practical difficulties of handling a case of acidosis enter. If the patient is in a pre-coma stage he can then be fed sugar simultaneously with maximal insulin injections. The balance between the sugar and insulin can be followed by examination of the blood and urine for sugar at stated intervals. If the patient is in profound coma, then injections of sugar intravenously or subcutaneously may be practiced. The details of the management of such a case, which must be steered between the dangers of too much insulin with an associated hypoglycaemic reaction on the one hand and an inadequate insulin supply on the other hand, are too numerous to discuss now. One point must be clearly understood. *All coma cases cannot be revived and cannot be made to live.* The damage done to the organism through the acid intoxication and the alkali depletion may be irreparable before the patient is seen.

2. *Dehydration States Resembling Coma.*—An uncontrolled diabetic who is eating an unrestricted diet soon accumulates in the tissues and the body fluids quantities of sugar. The organism in attempting to rid itself of this sugar by way of the urine utilizes large amounts of water. Furthermore even the sugar which remains behind in the tissues requires for its solution appreciable quantities of water. If such a patient is examined he may be drowsy or very stuporous; a temperature of 101° to 102° may be recorded. On inspection the dry wrinkled skin is easily noted and the parched beefy tongue is observed. We realize that the patient is out of water balance. In fact he is in a state of acute dehydration which has involved the brain producing the stupor, and the muscles producing the fever. Such a case may simulate closely acidosis, but can be differentiated through the relatively high plasma reserve. Although it should properly be considered an emergency, it is not one which causes alarm. In three to four days' time under moderate daily doses of insulin the patient may be entirely normal.

3. *Cases with Tolerance Inadequate for Maintenance.*—These are the cases usually classified as "Very Severe Diabetes" and for which there was formerly no treatment. They vary in intensity from cases of total diabetes to those which may live for a comparatively long time but which are always showing the signs of

the progress of the disease. If a patient has a residual tolerance of fifty grams of glucose per day, his tolerance may be raised by the use of insulin to 100 grams or to a quantity which will maintain him. Practically all the investigators are a unit on one point. A patient's diet should not be raised by insulin to a higher level than is necessary for the maintenance of his routine activities. Over-nourishment and excessive fattening are bad. If the patient becomes heavier and fatter his surface area is increased, his metabolism rises, and more food is required to maintain him at this level. Consequently the insulin dosage in turn must be increased. This may be classed as an economic reason for diet restriction. In the second place Allen insists that the lowering of the metabolism which comes with the maintenance of a patient on a low level diet is beneficial for his tolerance. In the third place it must be realized that a management which will keep the urine sugar-free must be one which will present the glucose and the insulin to the tissues at the same time. In other words their absorption must be simultaneous. For this reason the maintenance of a state of *a*-glycosuria is very difficult if the glucose fed is far in excess of the patient's residual tolerance.

4. *The Young Diabetic.*—These cases formerly were considered practically hopeless and usually became rapidly severe. The reason for this is not found in the severity of the disease *per se* but rather in a difference in the metabolism of the youthful organism. Thus a child derives a very large amount of its energy from carbohydrates. A healthy child deprived of food for a comparatively short time shows acetone in the urine. He utilizes the available carbohydrate but is not able to handle the fat. A slight infection in children is frequently associated with a surprisingly large amount of urinary acetone. In the adult these same states of inanition and infection are not accompanied by signs of incomplete fat oxidation. Either the adult has a larger available quantity of stored carbohydrate, which is improbable, or he is able to burn the fat more readily. Further, a child is an actively growing organism and requires more energy per kilo body weight to maintain himself than does an adult. These two situations can be best understood by considering three diets. A girl eight years of age requires approximately 1800 calories for maintenance and growth. In order that her urine be kept acetone-free she must have a tolerance of 150 grams of glucose. A boy twelve years of age requires 2100 to 2300 calories for development. His ability to burn fat is greater so that he can secure these additional calories with the same glucose tolerance of 150 grams. An adult man weighing 190 pounds and who has a tolerance of 150 grams of glucose can burn enough additional fat so that his diet may be raised to 2586 calories. This will enable him to do moderate work. It will be seen from these considerations that the youthful diabetic is really comparable to the situation discussed under Section 3 and for this class of cases there was no treatment prior to insulin therapy.

5. *Operative Emergencies.*—It is usually stated that a diabetic who is in perfect metabolic balance differs from a normal person only in the ease with which he gets out of balance. While in balance his tissues that may be damaged heal readily and all the processes of life proceed in a normal fashion. Hence it is possible to do any necessary operative procedure on a diabetic, for in insulin we have an agent through which even a complete diabetic can be placed in metabolic balance. A wide variety of operations have already been performed on diabetics. In such a

list are included Drainage of Ruptured Appendix, Removal of Chronic Appendix, Tonsillectomy, Extraction of Teeth, Amputation of Leg and Arm, Supra-pubic Cystostomy, and Drainage of Pelvic Abscess. It is needless to say that operative procedures are not undertaken unless a real emergency exists or unless one is convinced that the gain will definitely outweigh the risk assumed.

6. *Rapid Control of Diabetes.*—In the pre-insulin days approximately four to six weeks were required before the patient was well controlled and before he had begun to recover his tolerance satisfactorily. With insulin this period can be shortened to two weeks.

QUESTIONS OF INTEREST TO A PHARMACIST.

1. Does insulin cure diabetes?

Insulin is a product of the pancreas and other tissues and its absence or deficiency produces a condition designated clinically as *diabetes mellitus*. There is no evidence that insulin injections into the body either stimulate the pancreas to produce more insulin or influence in any way pathological processes active in the pancreas. The injection of insulin therefore controls but does not cure diabetes.

2. Does the oral administration of insulin, or extracts of the pancreas said to contain insulin, enable the diabetic to burn more sugar?

Insulin is destroyed by both pepsin, which is secreted by the stomach, and by trypsin which is secreted by the pancreas. Oral administration of insulin in salol coated tablets or otherwise is of no value.

3. Can insulin be *satisfactorily* administered at home?

The failure of the pancreas to produce insulin is a quantitative failure. It is total in a few patients and in the others it has a widely different value. Further, the unit of insulin may have a somewhat different value in two cases of diabetes. All of these factors must be measured. The patient must also be educated to cooperate in the management of his case. Therefore a hospitalization of the patient for two weeks is necessary. During this time he can be educated and all the variables can be measured.

4. Can insulin be *safely* administered to a patient at home?

It can be given safely to any patient at home to tide him over an emergency until such a time as he can be admitted to a hospital for study and education.

5. Can a patient eat anything he desires if he takes an injection of insulin?

Here again, if one realizes that diabetes is a quantitative disease, it can be seen that even though a patient takes a large dose of insulin he may so far overstep his tolerance with the subsequent food addition that he will do his tolerance great harm. You may answer this question with an emphatic "No."

6. Will a patient have to continue the insulin injections the remainder of his life?

This depends on the severity of the disease. A patient will suffer less inconvenience from the daily injections than he will from the disease. He might just as well object to the necessity of eating three meals a day for 365 days in the year. Your answer to such an objection is—"Eat or go hungry, take your choice." So the answer is "Inject insulin or suffer from diabetes, take your choice."

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## ON CHOLESTERYL PALMITATE, A CONSTITUENT OF CORPUS LUTEUM.*

BY MERRILL C. HART AND FREDERICK W. HEYL.

Cholesterol and cholesteryl esters are extremely important physiological substances and one or both are found in nearly all living tissue. The cholesteryl esters are a very labile cell constituent and vary greatly under different pathological conditions. Thus in some cases the cholesteryl esters of the human suprarenal capsule are increased 5 to 7 fold and under others they are decreased to one-tenth of their normal amount, the content of free cholesterol remaining approximately the same. An increase in the ester content is also observed in chronic kidney disease, diabetes and pregnancy and a decrease in infection.[1] The cholesteryl ester content of the suprarenal capsule is also influenced by the injection of saponin into the blood stream.

Laudau and McNee[2] showed that in man the entire cholesterol content of the adrenals is decreased in phthisis, other infections and neoplasms, while it is increased in inanition, pedatrophy and circulatory disturbances. The variations are chiefly of the esters. These experiments seem to indicate that the adrenals are a storehouse for cholesteryl esters but are not producers of cholesterol. They are regarded as intermediatory organs for cholesterol metabolism. The liver, bone marrow, lymph glands and spleen also appear to have this function.

Kondo[3] showed that 39 per cent. of the total cholesterol of the liver was in the ester form. Lapworth[4] obtained cholesterol and cholesteryl esters from kidneys, the adrenals, a dermatoid cyst and the brain. More than 99 per cent. of the brain cholesterol was found to be uncombined.

That the cholesteryl ester of the blood varies greatly was shown by the work of E. Hermann and J. Newmann[5] who found in 1 kilogram of normal female blood

* Received for publication December 8, 1923.

[1] Wacker and Hueck, *Archiv. f. exper. Pathol. u. Pharmacol.*, 71, 373, 1913.

[2] *Beitr. path. Anat.*, 58, 667, 1914.

[3] *Biochem. Zeit.*, 26, 238, 1910.

[4] *J. Path. Bact.*, 15, 254, 1911.

[5] *Biochem. Zeit.*, 43, 47 1912.

0.8641 Gm. of free cholesterol and 0.5755 Gm. of cholesterol as ester. In pregnant women the figure was 0.8346 for the free cholesterol and 0.9708 for the cholesteryl ester. In the blood of the new born, while the content of free cholesterol was 0.7811 Gm., the cholesterol as ester was only 0.1413 Gm.

Cholesteryl esters have been found in many organs. The normal kidney contains 0.012 to 0.03 per cent. of which 25 per cent. is cholesteryl palmitate and 75 per cent. cholesteryl oleate.[1] The normal aorta[2] contains 0.032 to 0.047 per cent. and L. Wacker and W. Hueck[3] found 0.10 to 0.15 Gm. in the normal suprarenal capsule. Wet blood corpuscles of the ox[4] contained 0.044 per cent. free cholesterol and 0.0019 per cent. of cholesteryl ester while sheep corpuscles gave 0.0589 per cent. free cholesterol and 0.0689 per cent. cholesterol in ester form.

Cholesterol as an ester was also found by K. Kauders[5] in 1 liter of the blood serum of the following animals in the amounts given: horse, 0.0199 Gm.; dog, 0.03285 Gm.; ox, none; rabbit, 0.2946 Gm.; guinea pig, 0.2364 Gm.; sheep, 0.038 Gm.

Cholesteryl esters have also been found in the dry placenta[6] varying from 0.072 Gm. in the normal placenta to 0.751 Gm. in the premature placenta. Bloor and Knudson[7] have shown that in the whole blood of normal individuals, the cholesterol combined as ester constitutes about 34 per cent. of the total cholesterol and that in the plasma was about 58 per cent. A variation in different individuals of about 15 per cent. of the average with no marked difference between men and women was found. In pregnancy, the percentage of cholesterol combined as ester was high and in nephritis and carcinoma it was low.

Cholesteryl palmitate has been found in the blood serum,[8] in the suprarenal capsule,[9] in the skin[10] and in the doubly refracting material from pathological organs.

The melting points of these cholesteryl esters have not the significance as to purity usually assigned to them because of the properties of these esters of forming liquid crystals and existing in several phases.[11]

Previous analytical work on corpus luteum on an ether extract had shown the presence of 0.70 per cent. free cholesterol and of 0.92 per cent. of cholesterol in the form of the ester. By extraction by means of acetone in the study of the lipoid constituents of corpus luteum, which will be reported on later, it was possible to isolate cholesterol in the form of its palmitic acid ester. As a quantitative yield of the esters was not obtained, there is the possibility of the existence of other cholesteryl esters in this gland.

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[1] A. Windhaus, *Zeit. f. physiol. Chem.*, 65, 114, 1910.

[2] A. Windhaus, *Ibid.*, 67, 174, 1910.

[3] *Archiv. f. exper. Pathol. u. Pharmacol.*, 71, 373, 1913.

[4] K. Kauders, *Biochem. Zeit.*, 55, 96, 1913.

[5] *Loc. it.*

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## EXPERIMENTAL.[1]

The sample of corpus luteum used in the following experiments represented carefully collected, hand-dissected material, dried immediately after collection in a high vacuum and below 40° C. in the commercial way. The dried corpus luteum represents approximately 6 parts of the fresh corpus luteum substance. It was representative of the material found on the pharmaceutical market in that it had been taken from such a large number of cattle as to represent a good average sample. It contained 4.5 per cent. moisture and 5.4 per cent. ash.

The material was ground to pass through a No. 20 sieve. One kilogram of this powder was thoroughly extracted thrice with 6 liters of pure acetone.

The first acetone extract was concentrated under reduced pressure in an atmosphere of nitrogen to a volume of approximately 1 liter. On standing for several weeks at 0° C. a white solid separated, which was filtered off, washed with a little acetone and dried *in vacuo*. This weighed 2.44 Gm. This melted very indefinitely, softening and becoming vaseline-like at 68 to 71° C. and not forming a clear oil till about 130° C. Nothing more of a crystalline nature was obtained from the filtrate from this on further concentrations.

The second acetone extract yielded when treated in a similar manner 0.91 Gm. more of a substance with like properties. The third acetone extract gave 0.64 Gm. of this substance.

This crystalline material was fractionally crystallized from hot absolute alcohol. The top insoluble material after repeated crystallizations gave very uniform microscopic flat, plate-like crystals melting at 71 to 73° C. to a vaseline-like consistency. The microscopic appearance or the melting point was not influenced by further crystallization from alcohol. This material (Fraction A) was insoluble in water, very sparingly soluble in cold alcohol and extremely soluble in ether, benzene, chloroform and hot alcohol. It gave the Liebermann-Burchard test for cholesterol. It was phosphorus-free, showing the absence of lipoid material. After drying *in vacuo* this material weighed 1.15 Gm. This substance was optically active.

Subs., 0.1562 in 10 cc. redistilled chloroform gave a rotation of −1.1° V. in a 1-dcm. tube. Hence $[\alpha]_D^{20} = -24.4$.

These results indicate the possibility of this material being of the nature of a cholesteryl ester. It was saponified by boiling with alcoholic potash for 3 hours under a reflux condenser.

Subs., 0.7414 required on saponification, *N*/20 KOH, 24.27 cc. Calc. for $C_{27}H_{45}O\text{-}CO.C_{15}H_{31}$: *N*/20 KOH, 23.73 cc.

The alcohol was distilled off from the saponified material after being made distinctly alkaline with sodium hydroxide. The aqueous residue was thrice extracted with ether. A troublesome emulsion formed which was broken by means of the centrifuge. The ether solution was washed, dried and evaporated. 0.4288 Gm. of crystalline material melting at 143–145° C. was obtained. 0.0167 Gm. more of

[1] We are indebted to Dr. George E. Miller for some of the preliminary work on the isolation and identification of the following crystalline material.

cholesterol was obtained in the purification of the fatty acids, making a total of 0.4395 Gm. (Calculated yield of cholesterol from 0.7414 Gm. of cholesteryl palmitate is 0.4586 Gm.) Crystallization from alcohol gave 0.3326 Gm. of the typical cholesterol crystals melting at 146° C. This material gave the Liebermann-Burchard test for cholesterol. A mixed melting point with pure cholesterol (Pfahnstiehl) was not depressed. It was optically active.

Subs., 0.2096 in 10 cc. of redistilled chloroform gave a rotation of −2.13° V. in a 1-dcm. tube. Hence $[\alpha_D^{20}] = -35.2$.

The alkaline solution after the removal of the cholesterol by ether extraction was cooled in ice water and precipitated with dilute nitric acid. A white flocculent fatty acid precipitate formed which was filtered off, washed with cold water and dried. The filtrate from this showed the absence of any of the more soluble fatty acids.

The fatty acids were taken up in ether and extracted from this with 5% sodium carbonate solution. From the ether solution there was obtained 0.0167 Gm. more of cholesterol. The sodium carbonate extracts were precipitated in the cold with dilute nitric acid, the precipitated fatty acid filtered off and washed with cold water. Dried to constant weight *in vacuo* this acid weighed 0.300 Gm. (Calculated yield of palmitic acid from 0.7414 Gm. of cholesteryl palmitate is 0.304 Gm.)

This acid was crystallized from 7 cc. of alcohol. The separated fatty acid was cooled, filtered, and washed with a little cold alcohol. Dried to constant weight *in vacuo* this fraction weighed 0.1273 Gm. This melted at 60–61° C. and a mixed melting point with pure palmitic acid was not depressed. This was analyzed.

*Analysis.* Subs., 0.1223; $H_2O$, 0.1391; $CO_2$, 0.3366. Calc., for $C_{16}H_{32}O_2$: C, 75.0; H, 12.5. Found: C, 75.0; H, 12.7.

The filtrates from this fraction on concentration and treatment with a little water yielded 0.1583 Gm. more of this acid melting at 59 to 61° C.

Therefore, Fraction A consisted of pure cholesteryl palmitate.

There appeared to be in the filtrates from the above-described cholesteryl palmitate a slightly more soluble derivative with a higher melting point. The solvent was removed from these filtrates and the residue, after a thorough extraction with benzene to remove cholesteryl palmitate, was crystallized from alcohol.

As there was an evident lack of material for carrying on this work 600 Gm. more of the corpus luteum were extracted in a similar manner. The crystalline compound (3.40 Gm.) separating in this case from the acetone extract yielded 0.640 Gm. of a material insoluble in hot alcohol and decomposing at 268° C. The nature of this material will be reported on later. The cholesteryl palmitate was separated from this fraction soluble in hot alcohol by crystallization from alcohol and the filtrates added to the above fraction.

The residue from the benzene extract of the above residue was fractionated from alcohol. A slight amount more of cholesteryl palmitate was obtained. No indication of the presence of free cholesterol was to be found in the filtrates from this.

The residue insoluble in benzene weighed 0.69 Gm. and melted at 100 to 135° C. (material sintered at 100°, became vaseline-like at 104° and did not run down to a clear oil till about 135° C.). This material was separated into an ether-soluble and an ether-insoluble fraction by thorough treatment with 40 cc. of ether. The residue from the ether extract on crystallization from alcohol gave a slight amount of crystalline material melting at 80 to 81° C. This was of importance as indicating the possible presence of cholesteryl stearate which melts at 82° C.[1]

There was not sufficient material for further work on this.

The ether-insoluble fraction was then crystallized thrice from 20 cc. of hot alcohol. The last two crystallizations did not affect the melting point (104–135° C.) and the microscopic appearance of the crystals (flat plates). Dried *in vacuo* this fraction weighed 0.5215 Gm.

This material was taken up in 75 cc. of hot water, filtered, cooled and precipitated with dilute hydrochloric acid. A white flocculent fatty acid precipitate was obtained. This was filtered off, washed with cold water and dried *in vacuo*. It weighed 0.4602 Gm. This was fractionated from alcohol into three fractions weighing 0.3210, 0.1243, and 0.0149 Gm., respectively. The top fraction melted at 69–69.5° C. and a mixed melting point with pure stearic acid was not depressed. This was analyzed:

*Analysis.* Subs., 0.1599; $H_2O$, 0.1836; $CO_2$, 0.4448. Calc. for $C_{18}H_{36}O_2$: C, 76.0; H, 12.7. Found: C, 75.9; H, 12.8.

The fraction under this melted at 67–68° C.

The aqueous filtrate and washings from the above separation of stearic acid were evaporated to dryness in a platinum evaporating dish and ignited at a dull red heat. 0.0616 Gm. of material was obtained. This was analyzed for potassium by the Lindo-Gladding method[2] and gave 0.1843 Gm. of $K_2PtCl_6$ equivalent to 0.0566 Gm. of potassium chloride. This corresponds to approximately one-half the potassium that should be obtained from 0.5215 Gm. of normal potassium stearate.

These figures suggest that this material is of the nature of potassium bistearate, $C_{18}H_{35}O_2K + C_{18}H_{36}O$.[3]

The filtrates from the above-mentioned potassium stearate were gathered together, the solvent removed and the residue (0.9679 Gm.) saponified. This fraction showed on titration the presence of 0.4067 Gm. of free acid calculated as stearic. On hydrolysis it gave 0.1168 Gm. of alcohol and ether-soluble unsaponifiable matter giving the Liebermann-Burchard test for cholesterol. The fatty acid fraction gave on crystallization from alcohol 0.3056 Gm. of a mixture of palmitic and stearic acids melting at 60–61° C. A mixed melting point with pure palmitic acid was 57–58° C. Volatile fatty acids were absent.

## SUMMARY.

The crystalline material separating on the concentration of the acetone ex-

[1] "Lewkowitsch Chem. Tech. and Anal. of Oils, Fats and Waxes," p. 66.

[2] *Bull. 107, U. S. Dept. of Agr.*, p. 11.

[3] "Lewkowitsch. Chem. Tech. and Anal. of Oils, Fats and Waxes," p. 128.

tracts of corpus luteum consists of cholesteryl palmitate, potassium stearate, possibly a very slight amount of cholesteryl stearate and free fatty acids.

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## THE ANTISPASMODIC ACTION OF CHLORETONE.*

BY L. W. ROWE.

Several years have now passed since Macht and his co-workers began their systematic pharmacological and clinical study of the action of the benzyl compounds—particularly benzyl benzoate and benzyl alcohol. In a series of articles beginning with his study of one group of the opium alkaloids Macht[1] logically deduced from his study of the other group that the benzyl component of the molecule must be responsible for the inhibitory and tonus lowering properties of the group as represented by papaverin. His subsequent investigation[2] of benzyl benzoate, benzyl acetate, benzyl alcohol[3] and finally benzyl mandelate[4] seemed to prove that in these compounds he had discovered very active antispasmodics whose therapeutic value was greater than any such drug previously discovered.

In considering the work of Macht on the benzyl compounds it seemed that other active sedatives had been largely overlooked. Knowing the powerful action of chloretone (tri-chlor-tertiary butyl alcohol, $C_4H_7OCl_3$) as a sedative, hypnotic antiseptic, local anesthetic and general anesthetic, it seemed more than probable that it would possess marked antispasmodic action as well. Accordingly a long series of experiments were begun in which a direct comparison could be made between the action of benzyl alcohol and chloretone. The sister bromine compound to chloretone, namely, brometone, was also included in part of the work. Benzyl alcohol was chosen for comparison because of the insolubility of the esters and because it is generally agreed that the esters are hydrolyzed into benzyl alcohol during the process of absorption from the alimentary tract and that it is consequently the action of benzyl alcohol which is observed.

### ACTION ON ISOLATED SMOOTH MUSCLE.

The first series of experiments were conducted upon strips of isolated smooth muscle such as the uterus, intestine and ureter, but particularly the uterus of the virgin guinea pig.

A summary of six successful experiments on the isolated uterus of the guinea pig gave the following comparisons as to amounts of the substances necessary to inhibit the normal tonus of the muscle.

On 9/12/22, 2 cc. of 0.5% chloretone solution added to 100 cc. of Locke's solution was much more effective than 2 cc. of 1% benzyl alcohol solution and about as effective as 5 cc. of 1% benzyl alcohol solution. In this experiment chloretone was 5 times as effective as benzyl alcohol.

On 9/15/22, 1 cc. of 0.5% chloretone solution was equivalent to 1 cc. of 2% benzyl alcohol solution and chloretone was therefore 4 times as effective as the benzyl alcohol. (See Fig. 1.)

On 9/19/22, 2 cc. of 0.5% chloretone solution added to 100 cc. of Locke's solution was more effective than 2 cc. of 2% benzyl alcohol solution but 1 cc. of 0.5% chloretone solution was less

* Scientific Section, A. Ph. A., Asheville meeting, 1923.

effective than 2 cc. of 2% benzyl alcohol solution. In this experiment chloretone was more than 4 times but less than 8 times as effective as benzyl alcohol.

On 10/31/22, 2 cc. of a 0.25% solution of brometone added to 100 cc. Locke's solution was not as effective as 1 cc. of a 0.5% chloretone solution. Also, 1 cc. of 0.5% chloretone solution was more effective than 1 cc. of 2% benzyl alcohol solution. In this experiment chloretone was more than 4 times as effective as benzyl alcohol and brometone slightly less effective than chloretone but about 4 times as effective as benzyl alcohol.

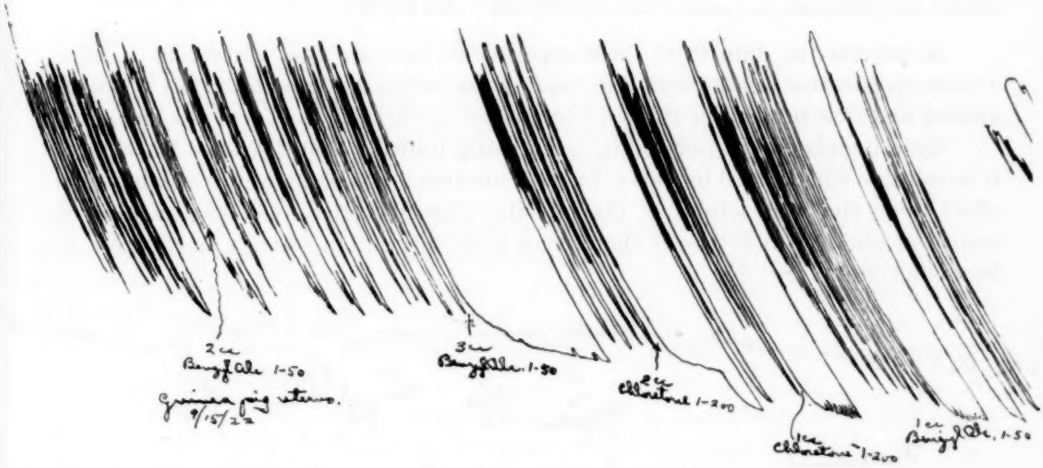

Fig. 1.—Isolated smooth muscle experiment—guinea pig uterus. Comparative action of benzyl alcohol and chloretone.

Fig. 2.—Isolated smooth muscle experiment—guinea pig uterus. Comparative action of brometone, benzyl alcohol and chloretone.

On 11/1/22, 2 cc. of 2% benzyl alcohol solution was more effective than 2 cc. of 0.5% chloretone solution and this latter solution was more effective than 2 cc. of 0.25% solution of brometone. In this experiment chloretone was less than 4 times as effective as benzyl alcohol.

On 11/2/22, 2 cc. of 0.25% solution of brometone was equivalent to 1.5 cc. of 2% benzyl alcohol solution. 2 cc. of 0.5% solution of chloretone was as good or better than 3 cc. of 0.25% solution of brometone and 2 cc. of 0.5% solution of chloretone was better than 1.5 cc. of 2% benzyl alcohol solution. In this experiment brometone was about 5 times as effective as benzyl alcohol and chloretone was about 4 times as effective. (See Fig. 2.)

In general the data from these experiments indicate that chloretone is fully 4 times as effective in inhibiting the tonus of the isolated uterus muscle as is benzyl alcohol and that brometone is from 4 to 6 times as effective as benzyl alcohol.

Experiments on the isolated intestinal strip indicate that 2 cc. of 0.5% chloretone solution when added to 100 cc. Locke's solution has a slightly greater inhibitory effect upon the contractions of the intestine than has 2 cc. of a 2% solution of benzyl alcohol. Chloretone is therefore a little more than 4 times as effective as benzyl alcohol. (See Fig. 3.)

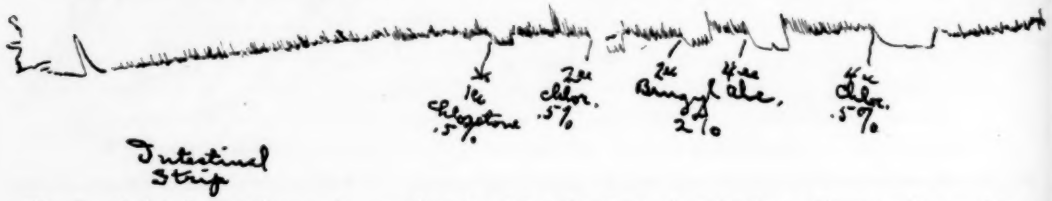


Fig. 3.—Isolated smooth muscle experiment—strip of guinea pig intestine. Comparative action o benzyl alcohol and chloretone.

On the isolated guinea pig ureter 0.5 cc. of 0.5% chloretone solution reduced the tonus but did not entirely inhibit the contractions. 3 cc. of 0.3% brometone solution entirely inhibited the contractions.

When the ureteral contractions were stimulated and increased by the addition of 1 cc. of barium chloride solution (1%) the addition of 2 cc. of 2% benzyl alcohol solution only partially inhibited the contractions while 2 cc. of 0.8% chloretone solution almost entirely inhibited the contraction. Certainly the chloretone is more than twice as effective as the benzyl alcohol on the isolated ureteral preparation.

### ACTION ON PUPIL OF THE EYE.

A number of experiments were conducted on the excised frog's eye and also upon the intact rabbit's eye to determine the comparative mydriatic action of solutions of benzyl alcohol and chloretone.

On the excised frog's eye the action of solutions of benzyl alcohol of various strengths was found to be as follows:

A 2% solution caused first a marked contraction of the pupil which was rapidly followed by a maximal dilatation of the pupil.

A 1% solution caused marked dilatation of the pupil in three to six minutes becoming maximal in five or six minutes after immersion.

A 0.5% solution caused fair dilatation in eight to fifteen minutes but the action was never maximal.

Less concentrated solutions such as 0.25% and 0.2% caused only a slight mydriatic action which never even approached a maximal action.

Solutions of chloretone caused the following actions on the excised frog's eye:

0.6% and 0.8% solutions caused slow but maximal mydriatic action, beginning five to eight minutes after immersion and becoming maximal in about fifteen minutes.

0.5% solution caused a slow but marked dilator action which became definitely noticeable within ten minutes and reached a maximum in about 20 minutes.

0.4% solution caused a fair action in about 15 minutes becoming slightly more marked later.

0.2% solution caused a slight action in 15 minutes.

Brometone was tested in 0.3% and 0 2% aqueous solutions.

0.3% solution of brometone causes no noticeable dilatation of the pupil of the excised eye of a frog until about eight minutes after immersion. The action becomes more marked ten to fifteen minutes after and approaches the maximum fifteen to twenty minutes after.

The 0.25% and 0.2% solutions give a slightly slower action and do not cause more than a fair dilatation of the pupil.

These results on the excised eye of the frog would indicate that chloretone and brometone are not as rapid in their action as benzyl alcohol and that chloretone is not twice as effective as benzyl alcohol by this method of comparison. Brometone seems to be more active than chloretone, though not more than twice as active, and chloretone is fully as active as benzyl alcohol if not more so, though it is not twice as active.

On the intact rabbit a few drops of 0.8% solution of chloretone instilled into the eye caused a fair dilatation of the pupil in ten minutes. A few drops of a 0.3% solution of brometone caused a rather marked dilatation of the pupil in about ten minutes.

A 2% solution of benzyl alcohol caused a more rapid and more marked action on the pupil than that caused by the saturated solution of chloretone and brometone but a 1% solution of benzyl alcohol caused a more rapid action but no greater action than the 0.8% solution of chloretone.

The action of chloretone on the pupil of the rabbit's eye is slower in being evidenced but is more lasting and slightly more powerful than that of benzyl alcohol while brometone is the more powerful of the three by this method of comparison though its action is also slower but more lasting than benzyl alcohol.

### ACTION ON THE INTACT INTESTINE.

A number of experiments were conducted upon rabbits, dogs and cats to determine the comparative action of chloretone and benzyl alcohol upon the intact intestinal loop according to the Trendelenburg method.[5]

The animals were anesthetized with paraldehyde, a 50% solution in olive oil being injected subcutaneously. Five dogs, six cats and four rabbits were used and several satisfactory experiments resulted from this number. The substances tested were injected intravenously usually in aqueous solution, but in a few instances larger doses of chloretone and brometone were injected in olive oil solutions.

On Nov. 8, 1922, an experiment on a dog showed that 4 cc. of 2% solution of benzyl alcohol (about 80 mg.) produced a very slight antispasmodic action and 200 mg. of chloretone produced a very marked effect.

On Nov. 9, 1922, in an experiment on a dog 10 cc. of 2% benzyl alcohol solution (about 200 mg.) produced a slightly greater effect than 20 cc. of a 0.5% solution of chloretone (100 mg.) but just equal to 40 cc. of a 0.25% solution of brometone (100 mg.). Also, 40 cc. of 2% benzyl alcohol solution (about 800 mg.) produced a greater effect than 40 cc. of 0.25% brometone solution (100 mg.).

On Nov. 13, 1922, in an experiment on a dog, 50 mg. of chloretone produced a greater effect than 100 mg. of benzyl alcohol. Fifty mg. of brometone were more active than 200 mg. of benzyl alcohol. Four hundred mg. of benzyl alcohol were very active, being more active than 100 mg. of chloretone.

In another experiment on a dog on Nov. 15, 1922, 200 mg. of benzyl alcohol produced greater action than 50 mg. of brometone.

On Jan. 12, 1923, in an experiment on a cat 2 cc. of 0.8% chloretone solution (16 mg.) were found to be about equal to 3 cc. of 2% benzyl alcohol solution (60 mg.).

On Jan. 30, 1923, in an experiment on a male cat the most satisfactory comparative results were obtained of any in the series. A reproduction of the tracing obtained in this experiment is shown in Fig. 4. In this experiment 0.08 cc. of benzyl alcohol caused a greater effect than 0.02 Gm. of chloretone but no greater than 0.04 Gm. of chloretone; 0.04 cc. and even 0.06 cc. of benzyl alcohol (No. 7) produced a greater effect than 0.03 Gm. of chloretone (No. 6), but 0.04 Gm. of chloretone (No. 8) produced fully as great an effect and the effect lasted a little longer.

In injections 9 and 10 the slightly greater and more lasting effect of 0.04 Gm. chloretone over 0.08 cc. benzyl alcohol is again demonstrated.

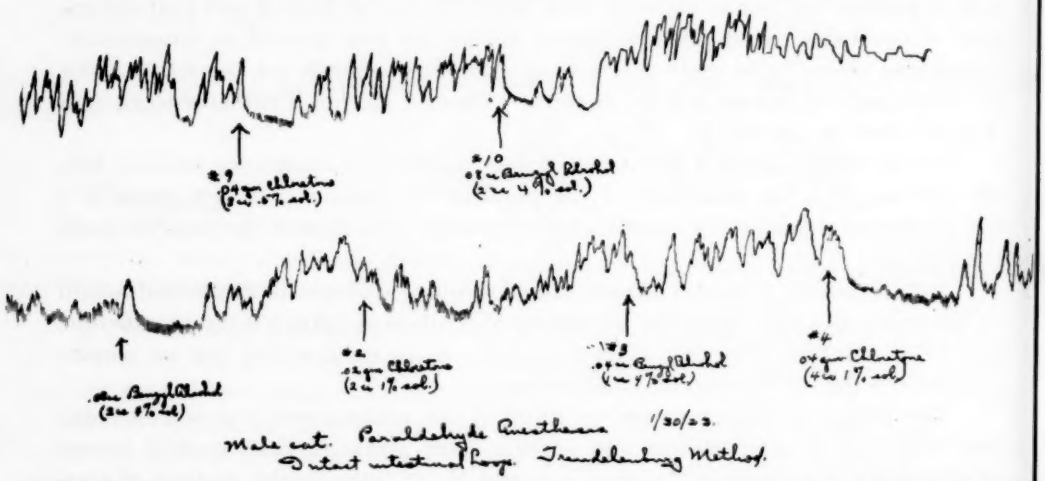

Fig. 4 (Parts 1 and 3).—Comparative action of benzyl alcohol and chloretone on the intact intestinal loop of the same animal.

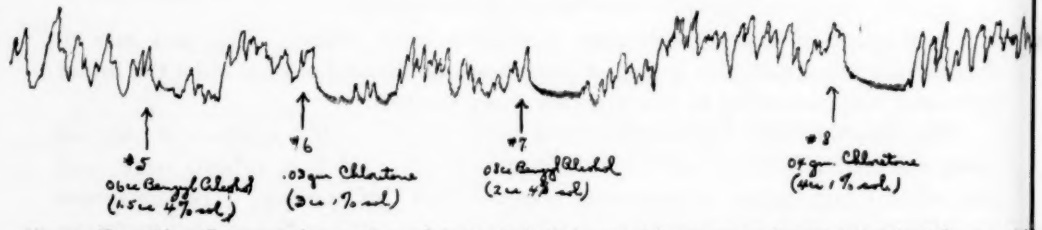

Fig. 4 (Part 2).—Comparative action of benzyl alcohol and chloretone on intact intestinal loop. 0.0 Gm. chloretone fully as active as 0.8 cc. of benzyl alcohol.

## CONCLUSION.

In summarizing the experimental data it is quite apparent that by the isolated smooth muscle experiments and the tests on the intact intestinal loop chloretone is fully two to three times as active as benzyl alcohol and its effect is more lasting, while brometone is fully as active as chloretone in the small number of experiments in which it was included.

In the experiments on the excised frog's eye the action of benzyl alcohol is more rapidly evidenced than that of chloretone and brometone but is not as great as either of these substances though its action is in general greater than one-half that of chloretone.

From the comparative data obtained in all the tests it seems fair to conclude that chloretone is fully twice as active as benzyl alcohol and that its effect is more lasting. Also, that brometone is about as active as chloretone though somewhat handicapped by being much less soluble.

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## TINCTURE OF GINGER.

BY JOHN R. RANDOLPH AND GEORGE M. BERINGER.

The experiments described in this paper were undertaken primarily in behalf of the pharmacopœial revision. The purpose was to determine the extent of the extraction of the ginger obtained by preparing tinctures with menstrua of different proportions of alcohol and the possibility of reducing the alcoholic percentage in the official formula. Also the feasibility of adopting for the U. S. P. the so-called "double strength" tincture prescribed by Treasury Decision No. 3092. Further, what should be the proper requirements for the standard preparation to be specified in the formula adopted for the U. S. P. X.

J. P. Snyder (*American Journal Pharmacy*, April 1918, p. 253) reviewed the published work of several other investigators on this subject and criticized the official standards and tests. He concluded "that it was possible to prepare Tincture of Ginger by the U. S. P. IX formula, in which the percentage of water-soluble solids is in excess of the 15 per cent. limit of the U. S. P. Further, that this percentage of water-soluble constituents is variable, depending upon the length of time the water is allowed in contact with the solids and also, to a great extent, upon the manner in which the solids are brought in contact with the water, and if this test serves any practical purpose and is to be retained, the U. S. P. should state the way and manner in which it is to be obtained."

He also criticizes the official directions for obtaining the total residue and contends that to prevent adulteration the minimum as well as the maximum for total solids should be given.

Under the title Zingiberis the U. S. P. IX describes five commercial varieties of ginger named in accordance with their geographical source, but it directs that the Jamaica Ginger only is to be used in preparation of the fluidextract and the tincture. The question arises why should standards be given for commercial varieties that are not used in medicine or that are actually prohibited in the official

formulas. There are, nevertheless, sound economic reasons why the Pharmacopœia should not discriminate against commercial varieties of drugs that are satisfactory no matter what may be their geographical source. However, it is a fact that the ginger used in pharmaceutical manufacture or sold in the drug trade in the United States is practically limited to few commercial varieties—the African and the Jamaica and occasionally the Cochin—and so for the purpose under consideration our experiments were limited to the two first-named varieties. The writers know that some pharmaceutical manufacturers prefer to make the tincture from the African ginger because it yields a product having a deeper color which appeals to a certain class of purchasers as an evidence of strength, and also that other manufacturers prefer a mixture of the African and Jamaica as yielding a blend of both flavor and color which they consider more satisfactory.

This investigation was for the definite purpose of determining the results that would be obtained in practice by following the pharmacopœial process under the usual store or laboratory conditions. A quantity of good commercial ground African and of ground Jamaica gingers was selected and all the experiments were carried out on these two samples. Instead of making the menstrua employed of definite alcoholic percentages, the American custom of taking measured volumes of alcohol U. S. P. and of water was followed. In each experiment 500 cubic centimeters of tincture were prepared without any attempt to control existing temperatures, which at times were "summer heat." The percolators were covered with plates of glass and the loss of alcohol under these conditions, corresponding closely with those usually found in pharmacies, it is believed was not above the average in practice.

In each experiment, the percolation was slowly carried on until 500 cubic centimeters of tincture were obtained, and then continued with the same menstruum until three additional percolates of 100 cubic centimeters each were successively collected. The resulting tinctures were examined as to clearness, color, flavor, specific gravity, alcohol content. It was decided to make the determination of total solids by taking 10 cubic centimeters instead of 10 grams and drying to constant weight at 100° C. and to meet the just criticism of Mr. J. P. Snyder the water-soluble solids in this residue were determined by taking two portions of 10 cubic centimeters each of water and after triturating the residue with a glass rod with these successive portions, filtering and evaporating the solution at a temperature of 100° C. The residue from 10 cubic centimeters of each of the three portions of weaker percolates collected was likewise determined. The marc was subsequently air-dried and 2 grams thereof exhausted with ether, and the ether solution evaporated. The residue from the ether extraction and the residue from the weaker percolates determined the completeness of the alcoholic extraction.

As the percentage of water was increased it became more difficult to percolate the drug. This was first observed in experiment No. 13, the menstruum of which was alcohol 7, water 3. The difficulty of percolation increased rapidly as the percentage of water was increased until with diluted alcohol as the menstruum it was almost impossible to percolate even coarse ground drug.

The tabulated statement on the following page shows the results obtained in this series of experiments.

It is recommended that for the purpose of making the official tincture, the

| Experiment No. | Drug used for 500 cc. tinct. | Menstruum. | | Sp. gr. tinct. | Alcoholic content, % by vol. | Residue 10 cc. tinct., Gm. | Residue water solution, Gm. | Residue 10 cc. 1st weak percolate. | Residue 10 cc. 2nd weak percolate. | Residue 10 cc. 3rd weak percolate. | Residue ether extraction 2 Gm. dried marc. | Appearance of tincture. | After keeping 1 year. | Extraction. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Jamaica 100 Gm. | Alcohol | | 0.8167 | 85. | 0.114 | 0.015 | 0.030 | 0.020 | 0.006 | 0.002 | Golden amber-brown, brilliant clear | Remains same | Complete |
| 2 | African 100 Gm. | Alcohol | | 0.8172 | 84.5 | 0.144 | 0.019 | 0.025 | 0.015 | 0.005 | 0.000 | Clear dark amber-brown | Remains same | Complete |
| 3 | Jamaica 50 Gm. African 50 Gm. | Alcohol | | 0.8167 | 84. | 0.136 | 0.015 | 0.025 | 0.009 | 0.008 | 0.000 | Clear dark amber | Remains same | Complete |
| 4 | Jamaica 200 Gm. | Alcohol | | 0.8229 | 82.3 | 0.246 | 0.028 | 0.034 | 0.016 | 0.010 | 0.006 | Clear dark golden brown | Remains same | Practically complete |
| 5 | African 200 Gm. | Alcohol | | 0.8229 | 82.3 | 0.300 | 0.020 | 0.019 | 0.010 | 0.005 | 0.006 | Clear, dark brown | Remains same | Practically complete |
| 6 | Jamaica 100 Gm. | Alcohol<br>Water | 9<br>1 | 0.8447 | 80. | 0.179 | 0.096 | 0.025 | 0.015 | 0.005 | 0.000 | Clear, bright amber-brown | Remains same | Complete |
| 7 | Jamaica 100 Gm. | Alcohol<br>Water | 7<br>3 | 0.8605 | 77.2 | 0.184 | 0.115 | 0.030 | 0.015 | 0.010 | 0.000 | Clear, bright amber-brown | Remains same | Complete |
| 8 | Jamaica 100 Gm. | Alcohol<br>Water | 4<br>1 | 0.8723 | 73. | 0.194 | 0.124 | 0.060 | 0.024 | 0.011 | 0.002 | Clear, amber-brown (not brilliant) | Scant precipitate | Practically complete |
| 9 | Jamaica 100 Gm. | Alcohol<br>Water | 3<br>1 | 0.8941 | 69. | 0.200 | 0.190 | 0.035 | 0.030 | 0.023 | 0.009 | Not entirely clear, amber-brown | Some sediment | Not entire |
| 10 | Jamaica 200 Gm. | Alcohol<br>Water | 3<br>1 | 0.8974 | 66.9 | 0.380 | 0.215 | 0.085 | 0.055 | 0.045 | 0.010 | Not entirely clear, amber-brown | Some sediment | Not entire |
| 11 | African 100 Gm. | Alcohol<br>Water | 3<br>1 | 0.8930 | 66.3 | 0.260 | 0.145 | 0.035 | 0.036 | 0.030 | 0.014 | Not entirely clear, brown | Slightly cloudy some sediment | Not entire |
| 12 | African 200 Gm. | Alcohol<br>Water | 3<br>1 | 0.8989 | 65.4 | 0.415 | 0.272 | 0.085 | 0.060 | 0.050 | 0.018 | Not clear, brown | Decidedly cloudy | Not entire |
| 13 | Jamaica 100 Gm. | Alcohol<br>Water | 7<br>3 | 0.8983 | 61.8 | 0.221 | 0.112 | 0.049 | 0.035 | 0.030 | 0.015 | Cloudy | Distinct precipitate | Incomplete |
| 14 | Jamaica 100 Gm. | Alcohol<br>Water | 3<br>2 | 0.9220 | 52.6 | 0.274 | 0.156 | 0.049 | 0.024 | 0.024 | 0.029 | Turbid, unsightly | Decided precipitate | Incomplete |
| 15 | Jamaica 100 Gm. | Alcohol<br>Water | 11<br>9 | 0.9381 | 49.4 | | | | | | | Turbidity increased | Increasing precipitate | Incomplete |
| 16 | Jamaica 100 Gm. | Diluted alcohol | | 0.9615 | 42.33 | | | | | | | Turbidity increased | Increasing precipitate | Incomplete |

Pharmacopœia should recognize African and Jamaica gingers, and possibly also the Cochin variety. It is believed that the drug strength of the tincture of the U. S. P. IX, 200 grams of drug to 1000 cubic centimeters of tincture, is the proper strength for medicinal purposes for which it is used.

If this drug strength be retained the alcoholic strength of the menstruum can with safety be reduced to a menstruum of 850 volumes alcohol to 150 volumes water. Sample No. 7 made by this menstruum completely extracted the drug and the tincture has remained perfectly clear for more than a year. A tincture so made will have an alcoholic content of about 75 to 77 per cent. by volume, thus reducing the alcohol to what is necessary as a solvent.

If, however, the drug strength be doubled in accordance with Treasury Desion No. 3092 then it will be necessary to adopt alcohol as the menstruum.

It is doubtful if it will be necessary to state either the residue or the water-soluble solids therein because if the Pharmacopœia recognizes the use of varieties of ginger other than the Jamaica, there will be a variation in these constants, and, at the most, these statements are of doubtful value as standards.

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## COMMENTS ON EXTRACT AND FLUIDEXTRACT OF GENTIAN.*

BY K. A. BARTLETT.

The U. S. P. IX directs that Extract of Gentian be made by percolation with cold water, and that the Fluidextract of Gentian be made with a menstruum of diluted alcohol. It is obvious that with this great difference in the menstruums, the finished products are going to contain different constituents. If the alcoholic menstruum is necessary to extract the active principles of gentian it would seem that, to be consistent, this menstruum should be used on the extract as well as on the fluidextract in spite of the higher cost. If, on the other hand, the aqueous menstruum extracts gentian equally as well, it would appear to be the simpler and more economical method.

Records available show that a fluidextract made by the U. S. P. IX formula (Repercolation Method) will average 40 Gm. of extractive in 100 cc. Upon making an extract by the official method the average yield is 32%. The straining of the partially concentrated percolate as directed by the official formula for the extract does not entirely remove the precipitated matter. Therefore the 32% contains some of this precipitate, so that the actual water-soluble extractive would be somewhat less. By taking a definite weight of this extract, dissolving it in water, filtering, washing the precipitate, and reducing the combined filtrates to a constant weight, we find that 70% of the extract is water-soluble matter not precipitated by boiling. This with relation to the drug is about $22\frac{1}{2}\%$.

A review of the literature shows several articles dealing with the extraction of gentian. Water acidulated with sulphuric acid (1 oz. to the gallon) was tried and found unsatisfactory.

William Weber states that gentiopicrin, $\frac{1}{10}$ of 1%, is the active constituent, and is easily soluble in water and alcohol. He suggests therefore that a weaker menstruum might be just as good.

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* Section on Practical Pharmacy and Dispensing, A. Ph. A., Asheville meeting, 1923.

Henry Greenish and Walter Henry Senton suggest for the extraction of gentian cold water by means of two successive infusions, then concentrate, strain, etc., as with the present extract.

George M. Beringer states a method for the fluidextract using water at 60° C. by means of successive macerations and expressions.

In order to determine what sort of fluidextract would be produced with an aqueous menstruum the following formula was tried:

| | |
|---|---|
| *Gentian, Ground* (No. 20 Powder) | 1000 Gm. |
| *Water* (Cold) q. s. | |

Moisten the drug with sufficient water and macerate over night. Pack in a percolator and cover with water. Percolate adding water as needed until the drug is exhausted. Concentrate the percolates by boiling to 2000 cc., then strain and wash the precipitate with water. Concentrate filtrate and washings to 800 cc. and when cold add

| | |
|---|---|
| *Alcohol* | 200 cc. |

Allow to stand 24 hours and filter. Wash filter with

| | |
|---|---|
| *Water* q. s. ad | 1000 cc. |

A preparation made according to the above formula has been under observation for over two years. The 20% alcohol is sufficient for preservation and very little precipitation has taken place. The total solids are 20 Gm. per 100 cc. which checks closely with the water-soluble portion of the extract. The slight variation is no more than can reasonably be expected in two different lots of drug.

It is not the intention of the writer to recommend either menstruum, but rather to point out that there must be a difference in the finished preparations. It is logical to assume that the two preparations are expected to have the same active constituents in their relative ratios to the drug and therefore that either one menstruum or the other should be used for both preparations.

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*Proc. N. J. Pharm. Assn.*, 1905, pp. 74, 76.

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The foregoing paper was briefly discussed by George M. Beringer and F. W. E. Stedem. The latter asked whether there was any gelatinization of the completed preparation. The author answered that there was not. Mr. Beringer was pleased to note that this work was being done; he had been using warm water instead of cold, because thereby, in his opinion, the medicinal value of the drug was preserved. Further attention should be given to this subject as presented in Mr. Bartlett's paper. Samples of the preparations were exhibited by the author.

# HYPOCHLORITE SOLUTIONS.

BY RUTH M. DAVIS AND H. A. LANGENHAN.

*Prefatory Remarks:* In formulating this paper an attempt was made to collect the literature available and compile the information obtained in logical sequence. When one considers the volume of the material printed relating to hypochlorite solutions, the possibility of having the compilation complete is slight. Furthermore many articles published represent duplications to a greater or lesser degree and including these repetitions would tend to make this paper too lengthy. This summary was submitted, in part, by Miss Davis, as a thesis requirement for a Master of Science degree in Pharmacy. It consists of the following parts:

No. 1. Historical Introduction.
No. 2. Labarraque's Original Formula and Modifications of This.
No. 3. Technique of Preparing Hypochlorite Solutions.
No. 4. Preservation of Hypochlorite Solutions.
No. 5. Chemistry of Hypochlorite Solutions.
No. 6. Appendix.

## (NO. 1) HISTORICAL INTRODUCTION.

It is very seldom that a pharmaceutical product offers such an interesting study as the *Solution of Chlorinated Soda*. This solution resulting from chemical investigations relative to the study of chlorine, nearly a century and a half ago, founded one of the first arts in the commercial world, that of bleaching, and contributed to a most important medicinal process, that of antisepsis. Its use as a bleaching solution as well as its use as a disinfectant popularized it quickly, but after it had become fully established, its popularity in the medical practice gradually diminished. During the past decade, however, its use as an antiseptic has been renewed until at the present time it has been placed among the foremost.

The bleaching property of chlorine was discovered by Scheele during his investigations on that halogen. In 1785 Berthollet, a French chemist, was the first to commercialize this property. He used an aqueous solution of chlorine but soon realized the need of a "stronger" liquid which could be prepared on a commercial scale. In 1788 he found that chlorine would unite with an "alkali hydrate" and still retain its bleaching properties. He was delighted with his new bleaching fluid, and, realizing its great commercial value, at once attempted to utilize his discovery but not for personal benefit, for he refused any financial return for his labors. He established his new process of bleaching at the Javel works in 1789, where the bleaching fluid was prepared by passing chlorine into a solution of "potash" (potassium carbonate). The physician Percy, in 1792, was placed in charge of the factory and prepared the fluid on a commercial scale, calling it "eau de Javelles"—the present *Liquor Potassæ Chlorinatæ* of the N. F. IV. Morveau and Berthollet advocated its use as a disinfectant and it was used for such purposes by Percy. The composition of the fluid was obscure but Berthollet presumed that a salt was formed as an additive product of "oxidized hydrochloric acid" (Chlorine) and the alkali; for example, NaOCl.

Watt, who had been in Paris when Berthollet had begun his research, introduced the solution as well as the new art of bleaching into England. The new

bleaching fluid was first manufactured in quantities at MacGregor's factory in Glasgow. Tennant of Darnley, wishing to find cheaper materials, tried saturating lime water with chlorine and obtained an effective but weak bleaching fluid. He continued his research and finally produced *Chlorinated Lime*, which at that time was called *Tennant's Bleaching Powder*, by saturating slaked lime with chlorine gas. In 1798 he took out a patent for the manufacture of "calcium, baryta and strontium earths" for the purpose of bleaching. (See copies of original patents in appendix.)

This bleaching powder was first used as a disinfectant by Massuyer, professor of chemistry in the medical school of Strasburg, in 1807. He used the dry "chloride of lime" to "neutralize miasmata" of hospitals. In 1820 Labarraque, a pharmacist, used "chlorides" as a disinfecting agent for catgut, but in 1822 he substituted an aqueous solution of bleaching powder, that is, a "solution of calcium hypochlorite," for the "chlorides" and used this for disinfecting dead bodies, amphitheatres, dissecting rooms and also as a medicinal agent for "sores." It is related that Labarraque who was pharmacist first to the Emperor and subsequently to Louis XVIII achieved great renown on the death of the latter monarch for he was able to proceed with the embalming of the royal body, which was so profoundly decomposed that no one was able to approach it until after the application of the hypochlorite solution. In the same year Labarraque suggested replacing the "potash" by sodium carbonate in the "eau de Javelles." He prepared a solution of chlorinated soda by passing chlorine into an aqueous solution of sodium bicarbonate "saturated" with sodium carbonate. This preparation, containing much free alkali, became known as *Liquor de Labarraque* or *Labarraque's Disinfecting Fluid*. Faraday used the same materials but doubled the amount of chlorine used by Labarraque, thereby obtaining a much stronger liquid. Payen offered a simpler method. He mixed a solution of "calcium hypochlorite," obtained by digesting bleaching powder with water, with a solution of sodium carbonate.

Up to the time when Labarraque prepared his new solution, the composition of these various bleaching and disinfecting solutions was unknown. In 1834 Balard's discovery of hypochlorous acid and its salts, the hypochlorites, went a long way towards clearing up some of the confusion. From this time on, medical men began gradually to use the solution, pharmacists to prepare it, and chemists to work over the composition of the mixture. In 1846 Semmelweis made use of it in ridding his clinic of "endemic puerperal fever." In 1859 Watt discovered a method of preparing it by electrolysis, and in 1890 Androeli patented a similar process. It was not until the advent of the European war that the hypochlorite solutions became known as among the most satisfactory disinfectants and antiseptics. It was through the investigations of Drs. Carrel and Dakin that an interest in the solutions was revived. They reworked the formula in the attempt to neutralize the excess alkalinity, one of the objectionable factors, and to reduce the available chlorine content. An interest in chlorine antisepsis having been aroused, many modifications of Labarraque's formula have been offered in an effort to obtain a more stable chlorine disinfectant.

The antiseptic action of the hypochlorites was for a long time thought to be due to their decomposition, with the liberation of oxygen, in the presence of organic matter. But this was questionable, since chlorine and not oxygen was invariably

set free when strong solutions of hypochlorites were applied to animal tissues. Dakin, working on the theory that some of the amino groups of the proteins were changed to —NCl— groups, prepared a chloramine and found that it possesses approximately the same antiseptic action as the original hypochlorites. This resulted in the introduction of the organic chlorine compounds into the market under the titles of *Chloramine, Di-chloramine* and under various trade names which have been found to be satisfactory substitutes for the hypochlorites in some types of antisepsis.

The first pharmacopœia to introduce *Labarraque's Solution* was the French *Codex Medicamentarius* of 1837. It applied the title *Hypochlorite de Soude Liquide.* The London Pharmacopœia of 1838 and the United States Pharmacopœia of 1840 introduced it under the title *Liquor Sodæ Chlorinatæ.* Whereas the French and London Pharmacopœias adopted the method of Labarraque for preparing the solution, the United States Pharmacopœia selected the modified process of Payen. The solution found its way into the other pharmacopœias in the following order:

1854 Belgian Pharmacopœia
1864 British Pharmacopœia
1872 German Pharmacopœia
1874 Mexican Pharmacopœia
1876 Portuguese Pharmacopœia
1884 Spanish Pharmacopœia
1892 Italian Pharmacopœia

In spite of the fact that Labarraque prepared his "Liquer" by using sodium bicarbonate and sodium carbonate, a characteristic of Dakin's solution, some contributors to pharmaceutical literature are advocating the replacement of *Labarraque's Solution* by *Dakin's Solution* in the Pharmacopœia of 1920, although the latter is only a modification of Labarraque's original preparation as is also *Liquor Sodæ Chlorinatæ U. S. P. IX*, official synonym, *Labarraque's Solution.*

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(*To be continued.*)

# STERILIZED DISTILLED WATER.*

BY HENRY KRAEMER.

Distilled water is the most important substance in any laboratory. Too much attention cannot be given to its preparation and testing its quality. The distilled waters on the market should not be used unless they are tested chemically and bacteriologically. We have all seen distilled water which had a greater pollution than river water. The bottles holding distilled water usually show a growth of algae on the bottom and sides. Frequently it is nothing more than spring water or well water. It usually contains carbon dioxide, ammonia and other gases and not unfrequently organic matter in suspension. It is extremely hazardous to use any distilled water except that which has been personally prepared in one's own laboratory.

In pharmacy, sterilized distilled water is a most important solvent and vehicle and when needed must be absolutely pure and free from traces of either organic or inorganic matter and absolutely sterile. It can only be prepared under one's own supervision and every precaution should be taken to be sure that it is absolutely pure. Both distilled water and sterilized distilled water are very easily prepared and may be made in such quantities to supply the ordinary needs of the pharmacist. There is unfortunately a great amount of confusion that regards the preparation, preservation and specifications of distilled water.

Distilled water is prepared on chemical and bacteriological principles. It is because pharmacists generally are not well prepared in the fundaments of these sciences that the preparation and dispensing of distilled water is attended with so much misgiving that very few of them could be relied upon to make up solutions for intravenous or intramuscular injection. The subject, however, is so simple that the pharmacist with his training and skill should be able not only to make both distilled water and sterilized distilled water but also be prepared to meet any emergency which comes up in connection with their use.

## METHOD OF PREPARATION.

First a word should be said with regard to the preparation of distilled water It should be made in apparatus consisting entirely of glass. The use of metallic condensers is to be condemned. Furthermore, the flask should be of such a size that the glass tubing from it to the condenser should be such that it may be connected with a rubber fitting. This insures the condensed liquid from meeting with any contamination or having in it any of the dissolved substances of the cork. We prefer to use in our work a 3- or 4-liter flask, the distillate from this being sufficient for most general purposes.

In the preparation of distilled water the U. S. Pharmacopœia permits the use of any kind of water, presumably tap water and this is distilled. The first 100 cc. of distillate, or about 10%, is rejected. Then 750 cc. are to be accepted and the residue rejected. Water prepared under these conditions may be considered distilled water but it has been shown that distilled water as a by-product from the condensed steam in artificial ice factories will answer the requirements of the U. S. Pharmacopœia. Water prepared under U. S. P. conditions deteriorates rapidly

* Section on Practical Pharmacy and Dispensing, A. Ph. A., Asheville meeting, 1923.

and it probably should not be included as a Pharmacopœial article. In fact for most purposes any sterilized potable water would be less objectionable, more economical and more readily obtained.

In following the Pharmacopœia one neither knows what he is doing or what the final product is going to be when it is used. One is in the dark as to what he is doing and the operation should be considerably modified. Distilled water should be dropped and sterilized distilled water only retained. It takes only a little more time to prepare the sterilized distilled water and as it may be readily tested from time to time one can ascertain its chemical as well as bacteriological purity. Ordinary distilled water as commonly prepared and used is far from pure and sooner or later breeds microörganisms which cannot be removed and are sure to produce a great deal of trouble. They may be gotten rid of by autoclaving, but the toxins are present and even the organisms and their spores are in suspension.

### ACID SHOULD BE ADDED.

Distilled water cannot be prepared alone by merely distilling water. To the water to be distilled either sulphuric acid or a chromic acid mixture should be added. Sulphuric acid alone is sufficient and a 1% solution in the original water is required. For every 1000 cc. of water to be distilled, 10 cc. of sulphuric acid are added. We prefer to let the acid act for a short time, usually allowing it to act on the organic matter over night. Then the water is distilled using a glass condenser as above indicated and instead of arbitrarily rejecting 100 cc. and collecting 750 cc. of the distillate, it is advisable to test the distillate by Nesslerizing and then accepting only such portions of the distillate as are free from ammonia. The testing with Nessler's reagent must be performed anyway and it might as well be performed at the logical place, which is the beginning of the operation.

The U. S. Pharmacopœia gives no specification as to how long distilled water may be kept and yet it is directed to be used as such in the preparation of syrups and in other cases upon recently boiling it. It makes a great deal of difference in the outcome of the use of distilled water in the making of any preparation as to how recently it has been distilled and how it has been kept. There is no necessity for this uncertainty and as there must be a need for its use in those preparations where it is required, it might be just as well to prepare it right at the outset, seeing that it is absolutely pure and preserving it under conditions where it can be used economically as well as with safety.

### HARD GLASS VESSELS.

In the preparation of sterilized distilled water the U. S. Pharmacopœia directs that the recently distilled water shall be collected in flasks of hard glass and sterilized by boiling the contents for thirty minutes. As this is only a partial sterilization, it stands to reason that the water should be used within a reasonable period of time. This is why the Pharmacopœia directs that sterilized distilled water of this kind should be used within 48 hours of its preparation. Practically the making of sterilized distilled water under these conditions is a positive waste in time and materials and it is very doubtful if it is practicable to use an absolutely pure sterilized distilled water prepared under these conditions. It may however be prepared by adopting two precautions and we have prepared it absolutely pure

and kept it for three years so that it was just as sterile and pure as the day it was made.

In preparing sterilized distilled water we collect the distillate which has been tested as previously stated in flint bottles holding from 100 to 500 cc. These are then plugged with cotton and wrapped with parchment paper and autoclaved at 10 to 15 pounds pressure for 20 to 30 minutes. Of course the bottles which are used as containers have been carefully tested and have been sterilized with dry heat. The idea of collecting it in small bottles is that when small quantities are to be used the contents of the entire bottle may be employed so that practically only what one needs is used. The stock can be kept in absolutely sterile condition and that it is holding its own may be shown by the appearance as well as by testing it. From time to time we withdraw from 1 to 5 cc. of the water planting it in a test-tube containing a nutrient broth which must remain sterile in the test from 24 to 72 hours of incubation.

In summarizing our work it may be given in the following method of procedure.

**Aqua Distillata Sterilisata.**

(Sterilized Distilled Water.)

| | |
|---|---|
| Water (any potable water) | 1000 cc. |
| Sulphuric Acid | 10 cc. |

Add the sulphuric acid to the water in a suitable flask and allow it to stand at least 30 minutes. Connect with flask with a glass condenser and distil the water. Collect the first portion of the distillate in Nesslerizing tubes and test with 2 cc. of Nessler's reagent. Then collect a 50-cc. portion and again test for ammonia. When any one of these portions develops no color after standing 5 minutes, the distillate may be considered free from ammonia and is now collected as distilled water. The distillate is collected in flint glass bottles which have been previously cleansed and sterilized as described under Sterilization on page 616 of the U. S. Pharmacopœia IX. The bottles should hold from 100 to 500 cc. depending upon the quantities ordinarily used for any one operation. The bottles are stoppered with cotton, which is covered with parchment paper. When the distillation is completed and there have been collected about 750 cc. of distillate the bottles are placed in an autoclave and heated from 20 to 30 minutes at a pressure from 10 to 15 pounds. Distilled water so prepared should be examined from time to time and tested for bacteriological purity by adding 1 cc. of the water to a nutrient broth which is then incubated from 24 to 72 hours. The broth should show no cloudiness or growth of microörganisms.

The preparation of the nutrient broth is made according to the method of the American Public Health Association as follows:

1. Add 3 grams of beef extract and 5 grams of peptone to 1000 cc. of distilled water.
2. Heat slowly on steam-bath to at least 65° C.
3. Make up lost weight and adjust the reaction to a faint pink with phenol red, or if the phenolphthalein titration is used, and the reaction is not already between +0.5 and +1, adjust to +1.
4. Cool to 25° C. and filter through paper until clear.
5. Distribute in test-tubes, 10 cc. to each tube.

6. Sterilize in the autoclave at 15 pounds (120° C.) for 15 minutes after the pressure reaches 15 pounds.

KRAEMER RESEARCH LABORATORIES,
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In briefly discussing the foregoing paper, Ivor Griffith and William Gray expressed the thought that in the process of distillation acid might be carried over. The former stated that in the laboratory under his supervision the distilled water is sealed as promptly as possible. It was suggested that the method of preparing distilled water might be a subject for another paper next year.

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## TINCTURE OF FERRIC CITRO-CHLORIDE.*

BY ADLEY B. NICHOLS.

In preparing Tincture of Ferric Citro-Chloride according to the N. F. IV, the writer has always noticed the difficulty of bringing the sodium citrate into solution and the heavy separation of saline matter, as the product was allowed to stand. It seemed to him that this excessive separation was uncalled for and needless, but the fact always remained that the N. F. III formula was not quite satisfactory, for the amount of sodium citrate had been increased from 425 Gm. to 500 Gm. per 1000 cc. of tincture.

A number of samples of the tincture had been prepared from various samples of sodium citrate on hand, and it was noted that there was a marked difference in the amount of salt which separated out in the different lots. Additional samples of sodium citrate were ordered from as many different firms as possible and tinctures prepared from each of these. The separation of salt again varied and in some cases it was quite difficult to dissolve the sodium citrate, even with aid of considerable heat.

In checking up the samples of sodium citrate, it was noted that several were labeled U. S. P. VIII, while others were U. S. P. IX, and the samples of tincture showed that there was the least precipitation in the tinctures prepared from the U. S. P. VIII salts. Upon referring to the two books, it was discovered that the salt official in the U. S. P. VIII had contained five and one-half molecules of water, while that in the U. S. P. IX contains only two molecules.

This discovery settled the trouble at once, for while the U. S. P. IX had recognized a different form of sodium citrate because of its better stability, the N. F. had missed this subsequent change in strength. Where the N. F. had raised the quantity of sodium citrate from 425 Gm. to 500 Gm. to insure a better Tincture of Ferric Citro-Chloride, they had apparently based their quantities on a U. S. P. VIII salt, while the salt which became official in the new revision was considerably stronger. The N. F. III tincture had actually contained 307 grams of anhydrous sodium citrate and the amount intended for the N. F. IV formula was 361 grams, while that actually present with the new salt amounted to 439 grams.

Two tinctures were prepared with the U. S. P. VIII salt, one using the original N. F. III formula, and the other the formula in the N. F. IV, and two tinctures

* Section on Practical Pharmacy and Dispensing, A. Ph. A., Asheville meeting, 1923.

were also prepared from a U. S. P. IX salt, using in the first a proportionate amount to represent the N. F. III formula, and in the second an amount which would represent the anhydrous sodium citrate as proposed for the N. F. IV. Solution was naturally more rapid in the tinctures which contained the N. F. III quantity of salt, but in all cases the final product was clear and there was practically no separation of saline matter.

Thus the quantity of sodium citrate in the N. F. IV formula, based on the U. S. P. IX salt, should be 412 grams, instead of 500 grams, this representing the actual amount of anhydrous sodium citrate as supposedly desired for the N. F. IV.

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After discussion of the paper by Messrs. J. C. Krantz, Jr., and F. W. E. Stedem, it was suggested that the attention of the Revision Committees of the Standards should be called to the subject.

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## ABSTRACTS OF PAPERS READ BEFORE SCIENTIFIC SECTION, A. PH. A.

(Abstracts by Arno Viehoever.)

To be published in succeeding issues of the JOURNAL.

### NOTE ON THE VARIABILITY OF THE COMPOSITION OF U. S. P. SYRUP OF WILD CHERRY.

By L. F. Kebler and W. F. Kunke.

During the examination of a sample of Syrup of Wild Cherry, purchased as of U. S. P. quality, it was found that the sucrose was materially lower than the amount calculated from the formula. Another brand of this Syrup was purchased and it likewise was low. The samples furthermore did not contain any hydrocyanic acid and the U. S. P. does not prescribe any. It was then decided to prepare a sample of the Syrup from a genuine specimen of Wild Cherry Bark, determine the degree of inversion of the sucrose and the percentage of hydrocyanic acid content in the finished syrup and the rate of inversion of the sucrose and the loss of hydrocyanic acid of samples, stored under different conditions. The results show that in a little over four months practically all of the sucrose was inverted and the hydrocyanic acid content was greatly reduced but not in proportion to the degree of sucrose inversion. Refrigeration seemed to retard the rate of acid changes.

### THE ACTION OF CERTAIN CHEMICAL AGENTS ON THE STERILITY AND ACTIVITY OF TISSUE EXTRACTS.

By Wyly M. Billing.

The author discusses experiments to effect the sterilization of tissue fibrinogen, the natural coagulating agent of tissue, useful for control of hemorrhage by internal administration.

The customary methods of sterilization could not be employed. Of various chemicals used mercuric chloride, suggested by Mills, proved to give very satisfactory results. After describing the procedure of sterilizing the extract and of again removing the mercuric salt, toxic to higher forms of life, the author concludes:

"The resulting extract is in every way as active as it was before sterilization.

"While we have used this method of sterilization only in tissue fibrinogen it offers very interesting possibilities in the ever-growing field of protein preparations for injection because we are able by it to obtain a sterile product without permanently affecting its nature."

### PNEUMOCOCCUS ANTIBODY SOLUTION.

With special reference to its nature, preparation, administration and effect.

By Paul S. Pittenger.

Antibody solutions are a new classification of biological products just beginning to come into use. After discussing in some detail the various phases of his subject indicated in the sub-title, he concludes that the satisfactory results obtained by leading pneumonia specialists throughout the United States in the past two years with antibody solutions mark an important step in advance in the specific treatment of lobar pneumonia.

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New York Veteran Druggists' Association will celebrate its first anniversary on January 22nd.

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Compiled by A. G. DuMez, Reporter on the Progress of Pharmacy.

All articles recorded in these lists will be presented in abstract form in the bound volumes of the YEAR BOOK, which is issued annually. Those desiring abstracts immediately can obtain them for a fee of one dollar each by communicating with A. G. DuMez, Hygienic Laboratory, U. S. P. H. S., 25th & E Sts., N. W., Washington, D. C.

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## AMERICAN PHARMACY OVERLOOKING THE PSYCHOLOGICAL MOMENT.*

BY FRANK H. FREERICKS.

In the general advance and progress of medicine and pharmacy and of the country as a whole, the time has come when the physician should cease to be a drug dispenser, and when the retail pharmacist should come into his own. The higher, constantly increasing requirements governing the practice of pharmacy and the constantly decreasing demand for retail pharmaceutical skill are rapidly creating a condition at once unfortunate and unwarranted, unbelievable almost for a people who abhor wasteful effort.

It is not possible to reconcile the present-day requirements for engaging in retail pharmacy with conditions under which in thousands of substantial towns the there located pharmacists are never called upon to fill prescriptions. In many of the pharmacies of the larger cities the prescription department is looked upon as an unprofitable but necessary evil.

The time has come to advocate a change. The public, the physician and the pharmacist are ready for it. They may not have it legislatively, but there is every hope that it can be secured by a systematically planned campaign of education. In such a campaign of education, it is the duty and the place of the American Pharmaceutical Association to take a leading part. It cannot devote its energies to a better, more ideal task. The American retail pharmacist needs an opportunity to practice pharmacy and that opportunity must be provided, primarily, by the American Pharmaceutical Association.

Of course, there are many obstacles, some appear to be insurmountable. The task is not to be accomplished within a day, nor in a year, but with a careful analysis of preventing difficulties; with an honest effort to meet and overcome them; with a broad vision and proper determination, the time is ripe. Let us reflect for a moment upon the greatest difficulties and principal obstacles. In their relative importance I believe them to be:

1st.—Disinclination and inability of many physicians to write prescriptions.
2nd.—Incorrect method of prescription pricing.
3rd.—Lack of confidence on the part of the physician in the pharmacists of his vicinity.
4th.—The physician's desire for secrecy regarding remedies successfully used.
5th.—The indiscriminate refilling and copying of prescriptions.
6th.—Frequently, a limited knowledge of therapeutic agents on the part of the physician.

There may be other and even more important causes for the existing condition, but they do not come to my mind. None of those stated will fail to respond

* Read before Section on Commercial Interests, A. Ph. A., Asheville meeting, 1923.

to proper treatment. For the moment it is unnecessary to elaborate upon details. With a sufficiently wide conviction that a change ought to be, and can be, secured, the methods will readily be devised. There is but one thing upon which I would touch as being a condition precedent to any successful effort and upon which such successful effort is bound to be based. There must be sought and secured the coöperation of the American Medical Association, and of the State and local medical societies. There must be a complete understanding as to what shall constitute the legitimate practice of retail pharmacy. Those who would approach the medical societies, in order to have their coöperation, must evidence first of all a complete desire to remedy conditions in retail pharmacy of which the physician complains to-day. They must ask that the medical societies collaborate in working out to them a satisfactory set of voluntary regulations which are to govern the retail pharmacist in his relationship with the physician, in order that he may reasonably expect and have the physician's support. In a study of the problem, I do not by any means minimize the shortcomings of medicine, but believe that since retail pharmacy is primarily concerned, it should be willing to first discuss its own retarding influences with a view first to their removal. There is no more worthy task to which the American Pharmaceutical Association can at this time give a large share of its energy; of necessity the work must be planned along national lines, because it is of nation-wide importance, and among the pharmaceutical organizations of the country there are none which may hope to succeed in it as may the American Pharmaceutical Association.

ABSTRACT OF DISCUSSION.

Leon Monell expressed his appreciation of the paper and moved that it be referred to the Section on Education and Legislation, A. Ph. A. for further consideration. The motion was carried.

D. F. Jones was pleased with the movement to bring the retail pharmacists into closer relation with the American Pharmaceutical Association. Efforts should be made to induce more prescription writing by physicians.

F. E. Mortenson contended that the paper had a place in this Section. In Pueblo the relation between physicians and pharmacists has brought about a return to prescription writing. Confidence and coöperation are influential factors in establishing conditions which insure best service for the sick, and associations of professional men are helpful in bringing about a better understanding between them.

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## UNCHARTERED COMMERCIAL OUTLETS.*

BY F. W. E. STEDEM.

An unsuccessful attempt on the part of a friend of mine to purchase an old-fashioned warming plaster spread on leather resulted in his appealing to me for the article.

His comments on the retail druggists and their stock and methods of doing business were rather caustic and uncharitable. His bantering tone led me to accept his challenge and make a voyage into the domain of the retailer of drugs. Of course, nothing that we saw was really new to me for the reason that I had gone over the grounds repeatedly and was well aware of methods and conditions.

* Read before Section on Commercial Interests, A. Ph. A., Asheville meeting, 1923.

His oft-repeated assertion that you can buy anything but drugs in a drug store proved to be ridiculous in face of the fact that we did succeed in getting almost every article of pure drug line that we made quest of. It is, however, remarkable that so many side-lines should be attempted by the retailer of drugs in so careless a manner. On every hand was abundant evidence that the retailer had been talked into one or more side-lines, not because he knew anything of the sale of these articles or how to display them but because he was induced to believe by someone that he could make considerable profit by merely having them in stock.

Believing that business is very largely an adventure, it is easy to understand why the average man will add numerous articles to his stock, none of which have direct connection or applicability to the sale of drugs, resulting often in an enormous amount of unsalable goods, all of which seem to indicate that his banker is either a very charitable person, inclined to leniency, or that his capital is much greater or more elastic than the average retailer is supposed to command. All this led to an attempt to think out some plans that would result in the retailer having an outlet for his adventurous spirit in lines of merchandise and possibility of sales, which would satisfy this spirit and add to rather than detract from his bank account and his standing as a merchant.

It is remarkable how many articles required in the sick room are not carried at all by the retailer, or at least carried in so poverty-stricken a variety that the seeker after sick room needs is almost invariably driven to the department store for such articles of merchandise. This at least is a fact in the cities.

An examination of the supply lists of any of the sundry houses and a reasonable study of the addenda to those lists from day to day, keeping strict tabs on the advertising pages of the drug journals, and an occasional glance at the various medical journals, furnishes a complete and up-to-date list of new articles for sick room needs as rapidly as they make their appearance from the manufacturer or inventor; and the cost of addition of such stock and carrying it in six or twelve dozen lots is so small when compared with the investment in a side-line, that the cost is scarcely worth considering, and yet such articles are in daily demand, requiring no display and resulting in additional business, adding greatly to the prestige of the store and its owner. I am tempted to list here such articles as my friend and I made quest of and failed to find during our excursion on the day mentioned. We did, however, find a considerable variety of all such articles in the department stores, resulting in the reflection that numerous demands on the management of such departments in the department stores was probably the real cause of the introduction of drug departments in these stores. Of this I am not certain. It is a fact, however, that those druggists who stock and keep a comprehensive variety of sick room needs do certainly make sales enough and of sufficient volume to make it pay and, then, the good will of their neighbors and patrons is also worth thinking about.

The second reflection was brought about by a perusal of a catalog of a seed store. I was astonished—not because I was not aware of the things the seed store sells but because it had never occurred to me in so strong a light previously—at the enormous number of articles for sale requiring the use of drugs and chemicals to manufacture them or, in some instances, drugs of a single ingredient and purpose only. Conversation with the owners of seed stores developed the fact that many

of these articles were in demand because of the advertising ability of the inventor of the merchandise and not because of any particular ability to do the work which the label claimed the article would do.

Further conversation also developed that any one taking the trouble to study plant diseases, or such injuries as were caused by insect marauders, and would perfect a preparation along the lines of those already in the market, determining to a certainty that the article was really an efficient one for the purpose indicated, would have no difficulty at all in building up a business for his merchandise resulting in a satisfactory showing in the bank account.

The reports of the United States Bureau of Agriculture are well worth serious study by druggists. These reports are based on observations of men who spend their lives in study of the condition, disease or insect destruction, and their recommendations are based on actual knowledge of the requirements of the case. They make many recommendations for remedies, in most cases giving instruction as to the preparation of the remedy, but such instruction usually awes the farmer or plant lover, because of the very natural disinclination to meddle in drug mixing, and here comes the chance of the retail druggist.

If my assumption—that business is an adventure—is correct and that side-lines mean a desire for more business, it is also probably true that these side-lines are added because our drug store owner has room and has time to sell: let us assume that the principal thing on his hands is time and urge him to look into the medicinal needs of plant life and insect discouragers. I feel assured that his interest after a few days or weeks or months of the study of plant life will have repaid him in pleasure of pursuit and knowledge of plant life gained, if there be no other profit. Should he decide that the field is worth while—let him make a special laboratory for the production of one or more plant disease remedies, put in his spare time in manufacturing a little of his spare cash in devising selling means and, after a few years, we will ask him the question—as to which of the two methods of using his spare time is most satisfactory, that of selling side-lines, having no connection whatever with the manufacture or sale of drugs or the needs of the sick, or the use of his spare time in manufacturing some remedy for plant need or a destroyer of plant-infesting insects? I have in mind a preparation used for the destruction of the insect commonly known as rose bug, which I know is not a perfect remedy for this nuisance, but which does in a manner fill the need. The owner of this preparation spent one season in experimental work, giving to various rose growers samples for their use and requesting reports on its efficiency. He spent the following winter in a search for capital and the organization of a close company, and was ready for the market the following season, beginning distribution in February of last year. This preparation, mark you, is not a perfect one, not that it does not kill or discourage rose bugs, but because it does produce a discoloration of the petals of a partly or full blown rose. This may sound like a frivolous or ill-begotten criticism, but it is nevertheless a just criticism of a defect in the preparation. The sales of this article paid dividend on a $50,000.00 capital invested. Get busy, some of you—perfect a preparation which will meet all the requirements. As an encouragement remember that there are throughout the United States and Canada a possible 20,000,000 customers. If you get a hundredth part of one per cent. of them to purchase your rose bug killer, you will

have built up a business which will keep you busy all of your spare time, meet all of the requirements of your adventurous spirit and make you a financial power in your community.

Just one more instance—a rose grower of my acquaintance, who has the reputation of being the foremost amateur grower in the eastern section of this country, told me of his difficulties in combating rust and fungus diseases of his rose plants. He showed me a formula which he had been using and which gave him perfect results and with which he had but one fault to find—that of its preparation. A study of this formula determined me to make the preparation in concentrated form, so that a teacupful added to five gallons of water would make the spray solution of the right strength. One of the objections to the making of these various rust and fungus disease remedies in large quantity in diluted form is the likelihood of the preparation rapidly deteriorating because of dilution, and here is where the drug store man has his opportunity. Study the needs of the plant grower, make for him a concentrated remedy, which reduces freight costs in shipping; makes it easy for him to mix and apply and because of concentration reduces the likelihood of oxidation.

I was called upon during this summer to purchase the entire arsenic stock of one of our small eastern manufacturers. Their desire to sell all of this stock quite naturally piqued my curiosity to the purpose of finding what use they had had for this arsenic previous to their intent to sell it to me. It did not at all surprise me to learn that they had attempted the manufacture of calcium arsenate and had become completely discouraged because of the manifold difficulties due, principally, to their ignorance of the subject and not lack of market. It is probably no secret to you men of the South that this calcium arsenate is the remedy now much in use for the destruction of the boll weevil. To those of the North, who know something of the terrible inroads on vegetable life of the Japanese beetle, the mere mention of that little pest is a sufficient hint. The potato plant is an important one in the economy of diet. The disease of rust and fungus this plant is subject to are of a trying nature and surely limit its food production. Bordeaux mixture as offered to the potato grower is far from perfect. The opportunity to sell such a product is almost unlimited.

ABSTRACT OF DISCUSSION.

D. F. Jones stated that in the Dakotas insecticides were handled by general stores in large quantities and at competitive prices; as a result, the retailer frequently was compelled to sell at a loss. Others participated in the discussion and the opinion prevailed that the paper presented opportunities for some and opened avenues for related ventures.

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## PRICE MAINTENANCE.*

BY HENRY B. SMITH.

Price maintenance has been a vital issue of the drug and many other lines of trade for a number of years. The trade pirate or price slaughterer was formerly established in what we style a transient location. He would advertise and put on display all kinds of nationally advertised items at extremely low prices. Should the prospective customers desire to purchase said items the keenest kind of sales-

* Read before the Section on Commercial Interests, A. Ph. A., Asheville meeting, 1923.

manship would be resorted to, to induce the customer to purchase something "just as good"—a few of the brighter ones would say "something better." Consequently the nationally advertised items would have triple competition. After inducing a person to purchase advertised wares, they would have to overcome the personal argument of the local dealer, with the result in many cases that the customer would get an inferior article, at a higher pro rata figure, than the nationally advertised items he intended to purchase. Many of us appreciate that some of the nationally advertised medicines have very little or no virtue, but State and local Boards of Health, after investigation, are gradually eradicating them. The National Board of Health should take this matter up and never allow those fakes to live long.

To-day we find the trade pirate getting into family and suburban locations. Here he acts as a trade demoralizer. He uses up his capital and all trade credit possible, often fails in business, and it takes a long time before the neighborhood regains its normal attitude toward the pharmacist. I have in mind several of those "slashing prices on patents" and household medicine pharmacists and then making up on prescriptions. Who is getting the worst of it? The sick when least able to pay.

Then we have a class of druggists who are not drastic cutters; they make a slight reduction on small items, a senseless cut I could never understand. It cheapens the store and sales force. It takes a lot of time to count and hand out pennies. This class usually depends on service and quality for success, and they are invariably among the best of stores. Note the ads of the department stores who use drug items as a means of getting customers into their stores. Seldom, if ever, are small sizes quoted or cut.

The big stores induce one to buy by reason of price or display. Your name and address is a record for delivery only. You seldom, if ever, meet the proprietor, and all he knows is your money. At the neighborhood store, you know the proprietor personally. He listens to all (nearly all) your troubles, physical and otherwise, gives you advice on all sorts of matters, furnishes all sorts of accommodations, of which little appreciation is shown by the average customer. And then a party who rings up just before closing time to send an item on which you make a nickel, will complain about overcharging and slow service. I told a party one time it was too bad the department stores were not open all night, with special messenger service. When once a special cut price is made it seems to establish that price in the public's mind and anything above that charged by the neighborhood store is styled as injustice or robbery. There seems to be a general idea with the public that the druggist makes an enormous profit on his wares, no doubt exemplified by some trade pirate who has overcharged on prescriptions.

Advertised patented and toilet items, being articles of known price and in general use by the public, are slashed in price and used as bait to the unsuspecting public to attract them to the big stores. I have known big buyers to purchase the quantity lot, get all bonuses and discounts possible, and then sell at the actual cost.

Where does that ever-increasing percentage of one-man store come in? The neighborhood store is certainly entitled to a fair chance. I know many proprietors to-day who are working from 13 to 16 hours a day for a mere living. Many

put in more hours than their clerks, some clerks making more out of the business than they do. If the public health is to be conserved, this class of stores is entitled to encouragement. The honest pharmacist is the keystone in the arch of public health. He watches the quality of drugs and preparations, corrects errors made by the busy physician, an argument against the dispensing doctor and for encouragement of prescription writing.

Therefore, price maintenance is far-reaching, conserving the best interests of the public. Governmental paternalism or business in Government has cured many ills. The coming session of Congress bids fair to be epochal for price maintenance. The Chairman of the Foreign and Interstate Commerce Committee favors legislation of this class. The Federal Trade Commission has realized that this principle should be favored. Recent judicial decisions by the higher courts give it constitutional authority. All over the land people are waking up to the fact that the retailer is entitled to a living profit.

### ABSTRACT OF DISCUSSION.

A motion was made and carried to refer Mr. Smith's paper to the House of Delegates and ask that action be taken by that body endorsing a price-maintenance measure by Congress. The paper was further discussed by Messrs. Fleming, Carter, Kendall, Crockett, Philip, Webster, Freericks and others.

Mr. Carter referred to the fact that whenever legislation was enacted embodying price maintenance the courts made it ineffective, but he hoped that eventually some measure would stand the test of courts.

G. C. Kendall said that many druggists encouraged "cut" prices; he also advocated larger associations, so that the influence of numbers could be applied to legislators.

Henry B. Smith and Frank H. Carter referred to legislation in New York and Indiana limiting ownership of pharmacies and restricting sales of drugs to pharmacists, as a result of organization efforts.

J. H. Webster asked how a price-maintenance law would affect "one-cent" sales. Mr. Freericks replied that such sales would probably be declared as cutting the fixed price.

Mr. Philip said that the efforts of the American Pharmaceutical Association to bring about legislation regulating prices would strengthen the organization with retail pharmacists. He also referred to the growing success in the West in establishing fair trade conditions, and that newspapers and manufacturers were beginning to realize that the wishes of retail druggists are entitled to consideration, if reciprocity is desired.

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## THE TRUE DISCOVERER OF ANAESTHESIA A PHARMACIST-PHYSICIAN, CRAWFORD WILLIAMSON LONG.*

BY JOSEPH JACOBS.

At the Minnetonka meeting of our Association, it was my great pleasure to present a paper concerning the discovery of sulphuric ether as an anaesthetic in surgery, and show that no contest for this great honor could obscure or displace the right of the name of Crawford W. Long, of Georgia, the pharmacist-physician, to bear this distinction. I felt that our Association would honor itself in doing honor to his name, since a large part of his daily time during all his manhood years was spent in occupations connected with his drug business. He was an accomplished pharmacist. His stock of drugs was always complete and kept in

* Section on Historical Pharmacy, A. Ph. A., Asheville meeting, 1923.

professional system and good order; his knowledge of compounding and the preparation of medicines was that of an educated and expert apothecary; he kept fully abreast of all the discoveries and improvements of his day in pharmacy. He made frequent visits to the drug markets of our northern trade centers in the period before the war between the States and thus became acquainted with the pharmacists of our whole country. On account of this, and as he gave personal attention to all the details of his large drug business, while not engaged in calls and demands of his professional duties as surgeon and physician, his memory belongs to us as well as to the medical profession. I do not doubt that, if our Association as now constituted had been organized during his life time, he would have been an enthusiastic member.

I have thought, therefore, that it might be interesting to recount, here, what has transpired since our Minnetonka meeting in a public way to give emphasis to Dr. Long's celebrity in history and further fix the facts about this discovery correctly in the minds of all.

It will be remembered that the first original and successful use of ether as an anaesthetic was made by Dr. Long at Jefferson, Jackson County, Georgia, on March 30, 1842, when he subjected a patient, James Venable, to ether, and painlessly extirpated a malignant tumor from his neck. Many other such operations were performed by Dr. Long during 1842 and the next few years.

Yet, strange to say, Columbia University allowed a memorial to be erected in her Hall of Fame to another, who never claimed any knowledge or use of ether as an anaesthetic until 1846, and who only then used it at the suggestion of a friend, never claiming any originality for the idea. Surely the college of voters who brought this about could not have seen and considered the conclusive sworn proofs that give the credit of this great discovery to Dr. Long.

Lest some of our members may have been misled by this action and by other efforts to take away this distinction from Dr. Long, I beg that any who may be in doubt will read the booklet which I have prepared and which I beg may be deposited in our archives. This is a biography of Crawford W. Long, giving an account of his private and public life, in addition to the facts about the discovery of anaesthesia. The work to me was one of love since he was benefactor to me in my boyhood.

Since our Minnetonka meeting other honors have been conferred on the memory of Dr. Long.

Dr. L. G. Hardman of Commerce, Georgia, presented to the town of Jefferson, Jackson County, Georgia, a tall shaft of bright Georgia marble, that now adorns the public square of that village. It is appropriately inscribed and was dedicated and unveiled with impressive ceremonies.

The University of Pennsylvania on the 30th day of March 1912 unveiled, with appropriate program speeches by members of the Board of Trustees and the Faculty, a beautiful bronze medallion, designed and made by Dr. Tait McKenzie, showing Dr. Long bending over James Venable, March 30, 1842, administering sulphuric ether, preparatory to performing the first successful operation ever painlessly made—the extraction of a malignant ulcer from the neck of the patient.

By consent of the Board of Trustees of the University of Georgia, of which Dr. Long was a graduate on June 21, 1921, I had the honor of erecting on the

campus at Athens, Georgia, a monument to Dr. Long, consisting of a granite shaft into which was set a replica of the Pennsylvania Medallion, the monument being unveiled by the daughter of Dr. Long, Mrs. Harper, in the presence of his other two surviving daughters, besides a large audience of citizens and alumni, and received in speeches by Chancellor Dr. David Barrow, the Chief Justice of the Supreme Court of Georgia, Judge Richard B. Russell, and the President of the Georgia Medical Society, Dr. Frank K. Boland. Dr. Long's first and last patients were present on the occasion.

As early as July 1, 1902, our Georgia General Assembly chose the names of Alexander H. Stephens and Crawford W. Long as our State's most eminent sons to have statues in the National Hall of Fame. All these subsequent years, owing to a Constitutional inhibition against appropriations for such purposes, no funds have been available to carry out the legislative design.

But, recently, the Crawford W. Long Memorial Association was legally chartered to raise the necessary cost of such monument. And I take pleasure in stating that the association has so far completed their work of collecting the money—only a small part yet remaining to be subscribed—that the contract for making the statue has been awarded and early next year the unveiling will be celebrated.

In what I have done in bringing the memory of the great pharmacist-physician before our meetings, may I not be permitted to say that I have been constrained to obey the spirit of that clause in the Constitution of our own Association which enjoins upon us to:

"Encourage proper relations between Pharmacists and Physicians and the people at large, which shall promote the public welfare and tend to mutual strength and advantage." And, also, I avow the purpose of aiding in the promotion of truth in preserving and impressing facts that shall go to make American history.

ABSTRACT OF DISCUSSION.

Charles H. LaWall moved the acceptance of the paper as a valuable contribution to the historical literature of pharmacy. He said that a study of the historical facts reveals that Dr. Long is entitled to the credit for the discovery of the use of ether as an anaesthetic. It is a practical reminder that we must be careful in our own history and records that we are about to compile for publication—that it is not written with the eye and mind of prejudice. He also contended that the paper should be widely published.

C. A. Mayo suggested that the paper be printed by publications of the pharmaceutical and medical professions generally, magazines, etc. After further remarks by others a motion providing for publication in other periodicals was carried.

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## COMPOSITION OF A FEW ALLEGED TUBERCULOSIS CURES.

By L. F. Kebler.

The alleged Tuberculosis Cures group themselves naturally into three classes:

1. Those embodying Constitutional Treatment.
2. Inhalation Method Treatment.
3. A combination of the above.

In the first class may be mentioned a mixture consisting of maltose syrup and creosote.

In class two may be enumerated the inhalation of small amounts of sulphur dioxide, ammonium chloride, oil of eucalyptus, etc.

Among the volatile inhalation agents employed in the third class may be mentioned chloroform, creosote, menthol, camphor, oil of cassia, phenol, alcohol, iodine, oil of eucalyptus, turpentine, terebene, oil of pine, volatile mustard oil, etc.

The constitutional part in one case includes acetylsalicylic acid flavored with cinnamon; tablets containing iron, quinine and strychnine, supplemented by laxative medication.

# THE DEPARTMENT OF THE AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES

(EDITOR'S NOTE: The colleges of pharmacy belonging to the Conference will require three years as a minimum course after 1925. Many colleges are now preparing their curricula for this three-year course. Dean Faser's article which follows is timely as it sets forth the curriculum of the three-year course in the Mississippi School of Pharmacy.

C. B. JORDAN, *Chairman and Editor.*)

## COURSE OF STUDY, UNIVERSITY OF MISSISSIPPI SCHOOL OF PHARMACY.

BY HENRY M. FASER.

Beginning with the session of 1925–1926 the Conference Schools will extend their minimum course to three years. At our institution we decided that we would go to three years as our minimum course in 1924–1925 and, accordingly, we have made preparations to do this.

Our faculty has been at work for some time working out the course of study. Our aim has been to have the three-year course so arranged that on completion of same, for which the Pharmaceutical Chemist degree will be conferred, the student could spend the fourth year and receive the Bachelor of Science in Pharmacy degree.

For many years our entrance requirements have been high school graduation, the same as required to enter the academic department of the university. When we raised our admission requirements from two years of high school to four years of high school, it not only put us in good favor with the members of the general faculty of the university, but it raised us considerably in the estimation of the high school teachers of the State, and we immediately received their support with the outcome that our school grew so rapidly that it was necessary to have new and larger quarters, hence our modern building and equipment. Now since our announcement that we are going to give only a three- and four-year course beginning next year, we are already receiving increased support and boosting and I think I am safe in saying that we may expect increased attendance.

The three-year course is outlined below.

FIRST YEAR.

| 1st Semester. | Hours. | 2nd Semester. | |
|---|---|---|---|
| Pharmacy | 7 | | |
| Pharmaceutical Botany | 5 | Same as first semester with typewriting left off | |
| Chemistry—General | 7 | | |
| English | 3 | | |
| Typewriting | 2 | | |
| Total | 24 clock hours<br>16 credit hours | Total | 22 clock hours<br>16 credit hours |

SECOND YEAR.

| 1st Semester. | Hours | 2nd Semester. | Hours. |
|---|---|---|---|
| Pharmacy | 7 | Pharmacy | 7 |
| Pharmacognosy | 6 | Pharmacognosy | 6 |
| Posology | 1 | Toxicology | 2 |
| Chemistry—Organic | 5 | Chemistry—Organic | 5 |
| Chemistry—Drug Assay | 6 | Chemistry—Drug Assay | 6 |
| Total | 25 clock hours<br>17 credit hours | Total | 26 clock hours<br>18 credit hours |

THIRD YEAR.

| 1st Semester. | Hours. | 2nd Semester. | Hours. |
|---|---|---|---|
| Pharmacy | 3 | Pharmacy | 3 |
| Pharmacognosy | 4 | Pharmacognosy | 6 |
| Chemistry—Physiological | 6 | Chemistry—Physiological | 6 |
| Materia Medica | 4 | Materia Medica | 2 |
| Bacteriology | 6 | Economics | 3 |
| Economics | 3 | Accountancy | 3 |
| Total | 26 clock hours<br>17 credit hours | Total | 23 clock hours<br>16 credit hours |

From the above it will be seen that 146 semester clock hours of work are given with 100 semester credit hours.

Upon completion of the second year of this course, should the student decide that he wants to spend two more years and receive the B.S. degree, some changes may be made, as for instance a foreign language may be substituted for the economics in order that he may get two years of the language.

For the fourth year leading to the Bachelor of Science in Pharmacy degree the following work is given:

A six semester hour course in Pharmacy Research including the History of Pharmacy.

A six semester hour course in General History.

A six semester hour course from the following list of Natural Sciences—Chemistry, Physics, Biology, Geology.

A six semester hour course from the following list of Social Sciences—Economics, History, Politics, Psychology, Sociology.

A six semester hour course from the following list of Mathematics-Language group—Mathematics, English, Foreign Language: German, French, Spanish, Latin, Greek.

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## SIMON N. JONES MEMORIAL.

The National Association of Retail Druggists is planning the foundation of a Simon N. Jones Memorial by the establishment of a scholarship in the Louisville College of Pharmacy, of which Mr. Jones was president for many years. The amount required for the memorial is $3000, of which more than $500 has already been subscribed. Contributions may be sent to the N. A. R. D., 168 N. Michigan Boulevard, Chicago. A sketch of Mr. Jones will be found in the September JOURNAL A. PH. A. for 1921, p. 653.

# UNITED STATES PHARMACOPŒIA.

## TENTH REVISION.

## ABSTRACT OF PROPOSED CHANGES WITH NEW STANDARDS AND DESCRIPTIONS.*

### PART IV.

### EXTRACTS, FLUIDEXTRACTS AND TINCTURES.

The Pharmacopœial Convention of 1920 recommended that abstracts of changes proposed for the U. S. P. X. and new standards and descriptions be published before final adoption, that those who are not members of the Revision Committee may have an opportunity for comment and criticism.

In compliance with this recommendation, the following abstracts are submitted. The nomenclature and the exact wording of the text do not necessarily represent that to be finally adopted and doses have not been appended.

Comments should be sent to the Chairman of the Revision Committee,

E. FULLERTON COOK,
636 South Franklin Square,
Philadelphia, Pa.

## GENERAL TOPICS.

**Fineness of Powders.**—Instead of specifying in each formula the number of the powder, the following descriptive terms are to be used: "Coarse," "Moderately coarse," "Fine," "Very fine."

"The term 'coarse' as applied in the Pharmacopœial formulas to the powdered drugs specified shall be defined as a powder not less than 95 per cent. of which will pass through a sieve having 20 meshes to the linear inch.

"The term 'moderately coarse' shall be defined as a powder not less than 95 per cent. of which will pass through a sieve having 40 meshes to the linear inch.

"The term 'fine' shall be defined as a powder not less than 95 per cent. of which will pass through a sieve having 60 meshes to the linear inch.

"The term 'very fine' shall be defined as a powder not less than 95 per cent. of which will pass through a sieve having 100 meshes to the linear inch."

**Special Alcohol for Extracts and Resins.**—The following paragraph is to be added on this subject:

"In the manufacture of Pharmacopœial extracts and resins in which alcohol is used as a solvent only and does not remain in the finished product, it is permissible that alcohol made nonpotable by the addition of from five to ten per cent. by volume of commercially pure methyl alcohol or acetone may be used in the place of ethyl alcohol in accordance with Federal Statutes and Regulations of the Internal Revenue Department, but the products must conform to the official requirements as determined by the tests of the U. S. P. X., and the finished preparations must be identical with those made by the official processes. This provision is not to be construed as permitting the use of denatured alcohol in any medicinal product containing alcohol intended for internal use."

## EXTRACTS.

**Extractum Belladonnæ Foliorum.**—No change.

**Extractum Cannabis.**—Glucose is to be eliminated as a diluent and replaced by storax or sub-standard extract of cannabis.

Moderately coarse powder replaces No. 20 powder.

**Extractum Cascara Sagradæ.**—No change.

**Extractum Colchici Cormi.**—No change.

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J. H. BEAL,
801 W. Nevada Street,
Urbana, Illinois.)

**Extractum Colocynthidis.**—No change.

**Extractum Colocynthidis Compositum.**—No change.

**Extractum Fellis Bovis.**—No change in formula but an assay is suggested.

**Extractum Glycyrrhizæ.**—Ash limit—increased from 6 per cent. to 8 per cent.

**Extractum Glycyrrhizæ Purum.**—Process changed: Glycyrrhiza, in coarse powder, .... 1000 Gm.; Boiling Water, *a sufficient quantity.*

Moisten the Glycyrrhiza with sufficient boiling water, transfer the mixture to a metal percolator and percolate with boiling water until the drug is exhausted. Promptly evaporate the percolate on the water-bath to a pilular consistence.

**Extractum Hyoscyami.**—No change.

**Extractum Nucis Vomicæ.**—Process of manufacture changed:

Use "moderately coarse" Nux vomica. Extract with a mixture of 75 volumes of alcohol, 1 volume of acetic acid and 24 volumes of water. The benzin solutions are not washed with acid, chloroform, etc.

**Extractum Rhei.**—Magnesium oxide is eliminated from the formula and starch only is used as diluent.

**Extractum Stramonii.**—Use "moderately coarse" Stramonium. Magnesium oxide is eliminated and starch only is used as diluent.

## FLUIDEXTRACTS.

**Fluidextractum Belladonnæ Foliorum.**—Formula and directions:—

"Belladonna leaves in moderately coarse powder, ....1000 Gm.

"Prepare a fluidextract by Type Process A (see page —) using a mixture of 3 volumes of alcohol and 1 volume of water as the menstruum, and reserving the first 600 cc. of percolate.

"After dissolving the soft extract in the reserve liquid, assay a portion as directed below, and, from the result thus obtained, ascertain by calculation the amount of alkaloids in the remainder of the liquid and dilute this with enough menstruum to make each 100 cc. of the finished fluidextract contain 0.3 Gm. of the alkaloids of belladonna leaves."

**Fluidextractum Belladonnæ Radicis.**—No change.

**Fluidextractum Buchu.**—No change.

**Fluidextractum Cannabis.**—"Moderately coarse" powder to replace No. 30.

**Fluidextractum Cascara Sagradæ.**—Coarse powder to replace No. 40.

**Fluidextractum Cascara Sagradæ Aromaticum.**—"Coarse" powder to replace No. 40.

Magnesium oxide 125 Gm. is replaced by magnesium oxide 60 Gm. and calcium oxide 60 Gm., the latter to be slaked before mixing with the cascara. The cascara is thoroughly mixed with these oxides, moistened with boiling water, set aside in a shallow dish for forty-eight hours before packing and percolating.

The alcohol is reduced from 250 cc. to 200 cc.

**Fluidextractum Cimicifugæ.**—No change.

**Fluidextractum Cinchonæ.**—No change.

**Fluidextractum Colchici Seminis.**—No change.

**Fluidextractum Ergotæ.**—Coarse powder to replace No. 40, and the drug is percolated with Purified Petroleum Benzin before proceeding with the regular percolation.

**Fluidextractum Eriodictyi.**—Moderately coarse powder replaces No. 30 powder.

**Fluidextractum Glycyrrhizæ.**—Formula and directions changed: "Glycyrrhiza in coarse powder,....1000 Gm.; Alcohol,....250 cc. Prepare a fluidextract by Type Process D (see page —). Promptly evaporate the aqueous percolate to 750 cc., allow this to cool and gradually add the alcohol, and, if necessary, sufficient water to make the product measure 1000 cc."

**Fluidextractum Hydrastis.**—No change.

**Fluidextractum Hyoscyami.**—No change.

**Fluidextractum Ipecacuanhæ.**—Formula and directions changed: "Ipecac in fine powder, ....1000 Gm.; Diluted Hydrochloric Acid, *a sufficient quantity.*

"Prepare a fluidextract by Type Process B (see page —), using a menstruum of 150 cc. of diluted hydrochloric acid, 200 cc. of alcohol and 300 cc. of water as menstruum I, and a menstruum of 2 volumes of alcohol and 3 volumes of water as menstruum II. Reserve the first 800 cc. of percolate.

"After dissolving the soft extract in the reserve liquid, assay a portion as directed below and from the result thus obtained ascertain by calculation the amount of alkaloids in the remainder of the liquid. Test a small portion for miscibility by adding 7 cc. to a mixture of 10 cc. of glycerin and sufficient syrup to make 100 cc. If this does not produce a clear mixture, gradually add diluted hydrochloric acid, drop by drop, until a clear mixture is obtained which will remain clear for four days. Add to the remainder of the fluidextract the amount of hydrochloric acid determined as necessary by this test, and sufficient of menstruum II, to make 100 cc. of the finished fluidextract to contain 1.5 Gm. of ether-soluble alkaloids of Ipecac."

**Fluidextractum Rhei.**—"Moderately coarse" powder replaces No. 30 powder.

**Fluidextractum Rhois Glabræ.**—The following formula for this fluidextract is recommended for inclusion in the U. S. P. X:

"Rhus Glabrae in 'coarse' powder, . . .1000 Gm. Prepare a fluidextract by Type Process B (see page —), use a mixture of 100 cc. of glycerin, 500 cc. of alcohol and 400 cc. of water as menstruum I, and diluted alcohol as menstruum II."

**Fluidextractum Rosæ.**—No change.

**Fluidextractum Sarsaparillæ.**—No change.

**Fluidextractum Scillæ.**—No change.

**Fluidextractum Senegæ.**—"Moderately coarse" powder replaces No. 30 powder.

**Fluidextractum Sennæ.**—"Coarse" powder replaces No. 40 powder.

**Fluidextractum Uvæ Ursi.**—"Moderately coarse" powder replaces No. 30 powder.

**Fluidextractum Zingiberis.**—No specification is given as to variety of Ginger to be used.

## OLEORESINA.

**Oleoresina Aspidii.**—Rubric given: "100 Gm. of Oleoresin of Aspidium yields not less than 24 Gm. of crude filicin."

Test and assay given:

"*Test.*—Oleoresin of Male Fern has a dark green color; specific gravity of not less than 1.00. Not less than 85 per cent. is soluble in purified petroleum benzin.

"*Assay.*—Warm the Oleoresin on a water-bath and stir until it is thoroughly mixed. Transfer 5 Gm., accurately weighed, to a flask of 200 cc. capacity, dissolve this in 40 Gm. of ether, then add 100 Gm. of an aqueous solution containing 3 Gm. of barium hydroxide, and shake vigorously for five minutes. Allow the liquids to separate and then filter off 86 Gm. of the aqueous liquid. Transfer this to a separator, add sufficient hydrochloric acid to produce a distinct acid reaction and extract with three successive portions of 30 cc., 20 cc., and 15 cc. of ether. Separate the ethereal solutions, filter, wash the filter paper with ether, evaporate, and dry the residue at 100° C. to constant weight.

"It weighs not less than 0.96 Gm. corresponding to not less than 24 per cent. of crude filicin."

**Oleoresina Capsici.**—Capsicum is restricted to the Mombasa and Zanzibar varieties. "Coarse" powder is directed to replace No. 40 powder.

*Test added.*—"Oleoresin of Capsicum responds to the following test: Dissolve 0.2 Gm. of the Oleoresin in 50 cc. of alcohol in a stoppered flask, dilute 0.10 cc. of the clear separated solution with 140 cc. of distilled water, containing 10 per cent. of sugar. Five cc. of this dilution swallowed at once will produce a distinct sensation of pungency and the taste of Capsicum in the mouth and throat."

## RESINA.

**Resina Jalapæ.**—Tests for solubility in chloroform and ether changed:—

20 cc. of solvent are used instead of 10 cc. and the residue in the flask and on the filter is washed with three successive portions of 5 cc. of solvent.

**Resina Podophylli.**—Tests for solubility in chloroform and ether changed to correspond to that under "Resina Jalapæ."

## TINCTURA.

General statement and type processes are not changed except as to manner of expression.

**Tinctura Aconiti.**—No change.

**Tinctura Asafœtidæ.**—No change.

**Tinctura Aurantii Amari.**—No change.

**Tinctura Aurentii Dulcis.**—No change.

**Tinctura Belladonnæ Foliorum.**—"Moderately coarse" powder replaces No. 60 powder.

**Tinctura Benzoini.**—No change.

**Tinctura Benzoini Composita.**—The use of either American or Oriental Storax will be permitted, provided proper standards for the so-called American "Storax" can be fixed.

**Tinctura Calumbæ.**—No change.

**Tinctura Capsici.**—"Moderately coarse" powder replaces No. 50 powder.

*Test added.*—"Tincture of Capsicum responds to the following test: Mix 10 cc. of the tincture with 40 cc. of alcohol in a stoppered flask; dilute 1 cc. of the clear liquid with 140 cc. of distilled water containing 10 per cent. of sugar; 5 cc. of this dilution swallowed at once will produce a distinct sensation of pungency and the taste of Capsicum in the mouth and throat."

**Tinctura Cardamomi.**—Cardamom increased from 150 Gm. to 200 Gm.

**Tinctura Cardamomi Composita.**—No change.

**Tinctura Cinchonæ.**—No change.

**Tinctura Cinchonæ Composita.**—Variety of Cinchona is not to be specified.

**Tinctura Colchici Seminis.**—"Moderately coarse" powder replaces No. 50 powder.

**Tinctura Digitalis.**—The fat is extracted from the digitalis before it is percolated and the menstruum for the tincture is changed from three volumes of alcohol and one of water to four volumes of alcohol and one of water.

**Tinctura Ferri Chloridi.**—Requirement for aging "at least three months" is omitted.

**Tinctura Gambir Composita.**—"Moderately coarse" powder of Gambir replaces No. 50 powder and fine powder of Cinnamon replaces No. 50 powder.

**Tinctura Gentianæ Composita.**—No change.

**Tinctura Hyoscyami.**—"Moderately coarse" powder replaces No. 60 powder.

**Tinctura Kino.**—No change.

**Tinctura Lavandulæ Composita.**—"Moderately coarse" powder replaces No. 50 powder for the various drugs in this formula.

**Tinctura Limonis Corticis.**—No change.

**Tinctura Lobeliæ.**—"Moderately coarse" powder replaces No. 50 powder.

**Tinctura Myrrhæ.**—No change.

**Tinctura Nucis Vomicæ.**—Menstruum changed: 10 cc. of acetic acid is added to the first 1000 cc. of menstruum. The tincture is cooled in a proper container by exposure to a temperature of 5° C. and filtered.

**Tinctura Opii.**—No change.

**Tinctura Opii Camphorata.**—No change.

**Tinctura Opii Deodorati.**—The tincture is deodorized by the paraffin treatment, instead of using Purified Petroleum Benzin. Fifty Gm. of paraffin is added to the percolate, concentrated to 150 cc., heating is continued until the paraffin is entirely melted, then the mixture is beaten thoroughly and set aside to cool. When cool, a hole is pierced through the layer of paraffin, the liquid drained off, 600 cc. of water added and the mixed liquid filtered. The alcohol, 200 cc., is added to the filtered liquid and the residual paraffin and filter washed with small portions of water until the preparation measures 950 cc. This is then assayed.

**Tinctura Rhei.**—No change.

**Tincture Rhei Aromatica.**—No change.

**Tinctura Scillæ.**—No change.

**Tinctura Stramonii.**—"Moderately course" powder replaces No. 60 powder.

**Tinctura Strophanthi.**—No change.

**Tinctura Tolutana.**—No change.

**Tinctura Valerianæ.**—No change.

**Tinctura Valerianæ Ammoniata.**—No change.

**Tinctura Veratri Viridis.**—"Moderately coarse" powder replaces No. 60 powder.

**Tinctura Zingiberis.**—"Moderately coarse" powder replaces No. 30 powder.

The variety of Ginger is not specified, that either the African, Jamaica or Cochin varieties may be used.

Menstruum changed:—850 cc. of alcohol and 150 cc. of water replaces alcohol (95%) as the menstruum.

Residual tests are eliminated as they become of questionable value in determining the strength of the tincture, especially if the use of more than one variety of Ginger is permissible.

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# PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and Branches shall become the property of the Association with the understanding that they are not to be published in any other publication prior to their publication in those of the Association, except with the consent of the Board of Directors."—Part of Chapter VI, Article VI of the By-Laws.

Article IV of Chapter VII reads: "Each local branch having not less than 50 dues-paid members of the Association, holding not less than six meetings annually with an attendance of not less than 9 members at each meeting, and the proceedings of which shall have been submitted to the JOURNAL for publication, may elect one representative to the House of Delegates."

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

## BALTIMORE.

The Baltimore Branch of the American Pharmaceutical Association and the other pharmaceutical associations of Maryland joined with various civic and charitable institutions and associations, and held a Memorial Meeting in honor of the late Dr. John F. Hancock, in the amphitheatre of the University of Maryland, on December 6, 1923, 8:15 P.M. President Engelhardt of the Baltimore Branch of the A. Ph. A. presided.

The Baltimore Branch had for its speaker, John B. Thomas; the ex-presidents of the A. Ph. A. had Geo. M. Beringer of Camden, N. J.; and the present officers of the A. Ph. A. were represented by the president, H. V. Arny of New York City.

Chas. E. Meyer spoke for the Maryland Pharmaceutical Association; R. E. L. Williamson for the Baltimore Retail Druggists Association; John C. Muth for the Drug Exchange Bureau of the Merchants and Manufacturers Association; and Melvin Strassburger for the Wedgewood Club.

Dr. D. M. R. Culbreth represented the School of Pharmacy of the University of Maryland, and Dr. Timothy O. Heatwole the University of Maryland. Dean Chas. H. LaWall spoke for the Philadelphia College of Pharmacy and Science.

Brother Paul of the St. Mary's Industrial School read resolutions which were offered by his institution; as did also Ex-Senator Clarence W. Perkins for the Free Summer Excursion Society.

Dr. F. W. Bressler represented the Medical and Chirurgical Faculty, and Dr. D. W. Cathell spoke for the Baltimore Eastern Dispensary.

The secretary read letters and telegrams from pharmacists from distant parts of the country expressing regret that they could not attend the Memorial Meeting.

Each speaker, as well as the written messages, extolled the pleasing personality, the high character and many virtues of the deceased. Few men have been blessed with the long, useful, public life; the happy home life; pleasant associates in their chosen profession, and the honored memory as was Dr. Hancock. The pharmaceutical, civic and charitable institutions honored themselves in honoring his memory.

B. OLIVE COLE, *Secretary-Treasurer.*

## CHICAGO.

The 138th regular meeting was called to order by President Warren at the University of Illinois School of Pharmacy Building at 8:30 P.M. on December 7, 1923, with more than 100 in attendance.

President Warren made several announcements, including that of the Nominating Committee which was directed to report nominations for the officers of the Branch, including the Committee Chairman at the January meeting. President Warren also welcomed the fifty-five members that have been added to the American Pharmaceutical Association and the Chicago Branch since

October 1 of this year. Then the evening was devoted to a splendid entertainment offered by the members of the Lambda Kappa Sigma sorority, followed by a very pleasant social time and supper.

E. N. GATHERCOAL, *Secretary.*

CINCINNATI.

The December meeting of the Cincinnati Branch of the American Pharmaceutical Association which was held on December 11 was devoted to discussion of laws and their relation to the druggist. Charles Ehlers, president of the Ohio State Board of Pharmacy, spoke of the work being done by the Board in their efforts to prevent the sale of poisons by unregistered dealers.

One exception to this is the sale of denatured alcohol which may be sold by garages, etc. He showed copies of a printed warning which had been sent out to such dealers, cautioning them against the advertising or sale of this product under the simple name "Alcohol" and warning them that when sold it must be labeled "poison." He said that the deaths from denatured alcohol in Ohio exceeded those in any other State, a fact which he attributed to the failure on the part of these dealers to label this "poison." He warned the druggist against the growing practice of telephoning prescriptions from one branch to another to have them filled, stating that this practice is illegal if the prescription contains narcotic drugs and is also illegal unless the transmitter as well as the receiver is a registered pharmacist.

William L. Brittain, formerly State drug inspector, gave an interesting summary of his experiences, pointing out some of the danger points in the laws and regulations under the State law. He accentuated the fact that the Ohio State law differs in several important particulars from the Federal law. One of these was that under the Ohio State law any product bearing the name of any U. S. P. or N. F. preparation must conform to those standards. The Federal law permits variation if the variation appears on the label. He particularly criticized the use of petrolatum base in zinc oxide ointment as being objectionable from a therapeutic standpoint.

E. H. Grant, formerly of the U. S. Bureau of Chemistry, told some interesting experiences which occurred during his service as chief of the laboratory in Porto Rico where he had to contend with a dual standard, most of the physicians using the "French Codex."

The secretary was instructed to extend to the families of Charles A. Apmeyer, former secretary of the Branch, and Otto E. Betz, former member, the sympathy of the Branch in their recent bereavement.

Dr. Frank Cain and John T. Jennie of the committee of the joint meeting with the Ohio Valley Druggists' Association made a report on progress, and the committee was continued.

UNIVERSITY OF NORTH CAROLINA.

The third monthly meeting of the University of North Carolina Branch of the American Pharmaceutical Association for the year 1923–24 was held in Davie Hall, Tuesday evening, November 27. Thirty-five members were present. Since the last meeting eight new members have affiliated with the organization.

After the business session Professor E. V. Kyser presented an illustrated lecture on the "Production of Carborundum and Abrasives." The lecture was illustrated with lantern slides and samples of raw materials entering into the manufacture of carborundum and the various finished articles obtained from this material. Professor Kyser pointed out that this industry owed its development to the utilization of hydro-electric power, and that of the 700,000 H. P. developed at Niagara Falls the Carborundum Co. was equipped to use 25,000 H. P. continuously. Continuing his address the speaker stated that "carborundum" was created by Dr. Edward G. Acheson in 1891. There is a romantic story to the effect that Dr. Acheson was trying to bring true the story of the alchemist—that is, to make a diamond—but this he denies. He says he was looking for an abrasive material superior to emery, corundum, and the other natural materials then in use. The first experiments produced a sufficient amount of the carborundum to fill an ounce vial and at this time this was the world's supply. Tiffany, the famous jeweler of New York, bought the first amount at the rate of forty cents per karat and used it as a substitute for diamond dust, in roughing diamonds, polishing sapphires, emeralds and other precious stones. Since then the uses of carborundum have become almost universal as an abrasive and nearly every manufactured article for the comfort of man has at some point in its manufacture come in contact with carborundum in some form.

The members of the Branch are deeply

indebted to the Carborundum Company of America for the gift of the slides and samples for illustration, and are very appreciative of their interest in the organization.

After Professor Kyser's address Dr. Frank C. Vilbrandt, associate professor of chemistry, spoke on the "Chemical Industries of North Carolina." He stated that a survey of the industries of the State shows that a large number are chemical and that these industries grouped as a whole are next to cotton and tobacco in capital invested, estimated plant valuation, yearly production values, payroll and wage earners. Dr. Vilbrandt further said, "In valuation, production, and investment the chemical industries are a close second to tobacco, in which industry North Carolina excels the world. The 361 plants have a capital investment of $119,646,000, an estimated plant valuation of $87,770,000, an annual production value of $206,640,000 with 11,338 wage earners drawing a yearly payroll of $10,589,000. The industries included in this survey are fertilizer, cottonseed oil, tanning, paper and pulp, ceramics, ice, dyeing and mercerizing, chemical ore production, drugs, rubber, pine products, and gas and coal tars. Data from the Aluminum Company of America at Baden, N. C., and the municipal water filtration plants were not available. The cotton mills applying chemical treatment to their products such as the bleacheries, printing and dyeing plants in connection with the big cotton mills include these data in the cotton mill data. If all the chemical data could be grouped together the chemical industry would show itself second only to cotton."

C. R. WHITEHEAD, *Secretary.*

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## AN IMPROVED METHOD FOR THE ASSAY OF MERCURIAL OINTMENT U. S. P. AND BLUE OINTMENT U. S. P.

BY D. M. COPLEY.

The present official method, while accurate and reliable in itself, is not well suited for use in a Control Laboratory, where time is an important factor and where several lots may be held in process awaiting a chemist's report. The author therefore developed a more rapid method which proved to be equally accurate. He replaces petroleum benzine by anhydrous ether and xylol which leave a practically fat-free mercury residue and render the treatment with dilute hydrochloric acid unnecessary.

## NARCOTICS MISSING FROM ARMY STOCKS.

Simultaneously with an investigation into affairs of the United States Veterans' Bureau which has brought out charges that Col. Charles R. Forbes while head of the bureau had suggested "trafficking in narcotics" stored at the bureau's supply depot at Perryville, Md., it is reported that the Bureau of Internal Revenue has launched an inquiry into the whereabouts of large quantities of narcotic drugs, $5,000,000 worth of which were stored there during the Forbes administration but now reported to have disappeared.

Discussion in connection with the investigation recalls that large quantities of narcotics were reported stored at Perryville some time ago, when it was said that members of the Federal Narcotics Control Board held the theory that those stocks would constitute a reserve from which narcotics could be drawn in case of a future emergency in the United States which could thus be met without authorizing largely increased imports of narcotics into this country. Representatives of the drug trades say frankly they would like to know whether the Perryville stocks were disposed of through sale, disappearance or otherwise. The fact might have a bearing on the situation as regards supply, license and imports, for the country, it is suggested.—*Oil, Paint & Drug Reporter.*

## DIETHYLPHTHALATE II.

BY J. A. HANDY AND L. F. HOYT.

The authors present in this paper additional data on the properties of diethylphthalate and the results of a careful study of the methods recommended for its detection.

Among other results they found that diethylphthalate has a restraining influence on the growth of bacteria, while the disinfecting power of the ester is comparatively small. In the pharmacological experiments they administered *per ora* about 75 milligrams of the pure ester per kilo of body weight to an adult cat, and repeated this dose twice at intervals of 48 hours.

No appreciable physiological disturbance was noted, the only effects being to somewhat diminish the appetite and increase the sluggishness of the animal, which became, however, entirely normal within 3 to 4 days after the last dose was administered.

# THE SECTIONS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

## ABSTRACTS OF MINUTES OF THE SESSIONS HELD IN ASHEVILLE, N. C., SEPTEMBER 3–8, 1923.

(*Continued from p. 1132, December issue,* JOURNAL A. PH. A.)

## SECTION ON PRACTICAL PHARMACY AND DISPENSING.

Owing to the absence of Chairman Crosby B. Washburne, the first session of the Section on Practical Pharmacy and Dispensing, A. Ph. A., was called to order by Secretary Robert J. Ruth, September 6, at 9:00 A.M. Unavoidable absence of the Chairman was announced and regret expressed. The nomination of Robert J. Ruth for Chairman pro tem by Charles H. LaWall met with a second, and a vote being called for Mr. Ruth was elected by a unanimous vote. In like manner Irwin A. Becker was elected Secretary pro tem. After a few remarks relating to Mr. Washburne and the program, Chairman Ruth read the former's address; it follows in part:

### ADDRESS OF THE CHAIRMAN.

The general thought of this year's address is Service; with its application first to the individual member in regard to his debt of responsibility to the Association; second, service as applied to business; third, the increased service possibilities of this Section to the public.

The older members of the American Pharmaceutical Association can and should render a great service. The young men who are coming into the Association to-day need that encouragement and inspiration which only the older leaders in the profession are able to give. If only there were more Sir Bartle Freres. Sir Bartle Frere was coming to visit a Scotch home. The master of the household, sending a servant to meet him, sought for some description by which the visitor might easily be recognized. "When the train comes in," he said at last to the servant, "you will see a tall gentleman helping somebody."

There are probably many Sir Bartle Freres in the American Pharmaceutical Association, but what possibilities there would be in reserve if there were only more with such tendencies for service.

Service touches the life of every person; it has a lot to do with temperament and even with our digestion. The absence of it leads to most of our irritability, and its presence serves to give us pleasure. We all insist upon it in connection with our every need, and our needs are legion.

In the home life, figuratively speaking, we demand it in our expectations. A house is not a home, because of our many and varied needs. We need comfort, cheerfulness, atmosphere, environment, air, light, heat, order, books, music, dress and furnishings, we need loved ones, and we need the greatest thing in the world, love. It takes these things to make a house "home." And it is in the home that we get the best idea of service. It must have been born there. Service born in the unselfish devotion of mother. There never was home without a mother, and to her sweet memory we dedicate our definition of service. Here it is! The cheerful performance of labor for the benefit of others. That which promotes the interest, happiness and advantage of others. Helpful, obliging, kind, thoughtful and considerate care of others. Something out of which we get pleasure by giving pleasure. These definitions should be written upon the walls of every business house as a gentle reminder of "what ought to be." They apply with equal force to every line of business. The things which we make and sell, although marvelous in material, are dead things in a large sense unless we add the human touch of service. The article purchased from an alley cart may perhaps be distinguished from the same article purchased amid the luxurious surroundings of an up-to-date store only by the service associated with the purchase.

The cry of the human is for service; in the bank, manufacturing plants, drug store, in our colleges of pharmacy, in fact in every line of business which one might possibly have transactions with; it applies with equal force to our own Association. The individual members can be of service to our branches, who in turn are of more service to the parent body. It is an endless chain.

The battle of business to-day has less to do with commodities and more to do with service. The real battle for supremacy is the battle for service. Things offered for sale are all right in themselves. Each undoubtedly fills a need; material and manufacture are generally dependable. Competition largely creates the right price and each may be good value for the price. They may

be advertised in master fashion; they may be displayed to good advantage; but they remain as dead as a wax figure until the touch of human service makes them live.

The personality of a kindly interest in your need is what enhances the value of the things you want. The mutual benefit produced by the transfer of a thing from one person to another is a sale, is the thing which creates the feeling of satisfaction, and the memory of both this benefit and the satisfaction lives long after the thing itself has been forgotten. This is the service of value and in the presence of its own recognized value the price is seldom questioned. Benefit and satisfaction create confidence which is akin to faith and faith is the very foundation of all successful business.

In this battle of service, the old idea of regarding a customer as a source of immediate profit only has largely disappeared, and a new and much better idea has been introduced, that of seeing in every customer a prospective business friend; because of this friendly interest through service, because of the mutuality of benefits enjoyed, because of the unselfish effort to promote happiness and satisfaction, because of the sincerity of purpose to be helpful, obliging and courteous, thoughtful and considerate of everything which touches the supply of a need, because of the seeking of pleasure through the medium of giving pleasure, service has come to have a new meaning. A new relationship has been introduced and cultivated. The old vision of temporary profit has faded away and there is now a much broader vision, that of fostering an abiding friendship more humanly binding, and more permanent in character and more cumulative in value to each concerned, a friendship which grows stronger and stronger by the service test, a friendship which passes as an inheritance from father to son. It is to this mutual idea of service that the larger and more successful stores owe their success and prestige. A. F. Sheldon says, "He profits most who serves best." To this might be added, "He serves best who pleases most," for, after all, it is only human to like the friend who pleases us. It is also human to expect this pleasing service.

It is without doubt the desire of all merchants to give pleasing service, and in the working out of their desire to make the service first pleasing to the customer, for it is through that return channel alone that the store's pleasure flows. This fact is self-evident, and the merchant who is wise will profit by this idea of service properly applied. Customers who receive this pleasing and dependable service never fail in the matter of appreciation. They know full well that a thoughtful, kindly interest in their welfare is the human touch which merits their recognition and approval.

Service then is the *one* thing which enhances the value of the thing associated with it. It is the "payment in full" of every promise in advertising. It is the realization of every promise in advertising. It is the realization of every expectancy born of a beautiful window display. It is the assurance of welcome upon entering the store. It is the satisfaction insured as part of every transaction. It is a true indication of sincerity of purpose and no other credential is requested or required. The first requirement is that one must have it before he can give it. The second requirement is that its possession yields pleasure only in giving it to others. In the words of another, it means, "Give to the world the best that you have and the best will come back to you."

It is this new idea of service which should be the inspiration to this Section to study how its activities can be of greater service to the public. The possibilities are many as well as varied. More time might be devoted to improvements in the appearance of our finished products, which includes packaging, for it is safe to concede that the patient has no means of sensing accuracy or quality of our work, but forms his judgment entirely on appearances. The statement that "Apparel oft proclaims the man" applies with especial force to the manner in which our products are dispensed and packaged.

There is also the question of improvements in palatability. In many instances where the correct procedure is used, this manner of improvement would create a mutual benefit.

All new ideas relative to improvements in efficiency and technique should be considered, such as an enlargement of our laboratory facilities by the installation of modern methods and equipment.

I sincerely thank my fellow officers for their coöperation, and those members who so unselfishly gave us their time and efforts. I greatly appreciate the honor bestowed in your selection of me as Chairman and am pleased that it offered me the opportunity to be of service.

The address contained no recommendations and was received for publication.

William Gray, E. Fullerton Cook and G. L. Harvey were appointed members of the Committee on Nominations.

Report of the Committee on Unofficial Formulas was called for. Owing to the absence of Chairman Leon Lascoff, Messrs. F. W. Nitardy, W. L. Scoville and E. F. Cook, members of the Committee, commented briefly on the importance and value of this publication, which should be brought to completion. The reading of papers was next in order. A paper on "Isotonic Solutions"* by W. L. Scoville was read by the author and discussed by Messrs. B. O. Shiflett, E. F. Cook, F. W. Nitardy, I. A. Becker, Wm. Gray and W. L. Scoville.

Titles of other papers follow. They were read and discussed.

"The Absorption of Alkaloids by Talc in N. F. Elixirs,"[1] by John C. Krantz, Jr.

"Wax a Valuable Adjuvant in Pharmacy,"[2] by Leonard A. Seltzer.

"Pharmacy in China," by H. V. Stokely.

"The Preparation of Non-Toxic Distilled Water," by Henry Kraemer.

"The Problem of Maintaining Pharmaceutical Respectability,"[3] by L. E. Sayre.

"Comments on Extract and Fluidextract of Gentian," by K. A. Bartlett.

"Some Private and Quasi-Public Hospitals and the Drug Store,"[4] by Joseph Jacobs.

"Demonstration of an Ampul-Filling Burette," by F. W. E. Stedem.

"Tincture of Ferric-Citrochloride," by Adley B. Nichols.

The paper by Joseph Jacobs on "Some Private and Quasi-Public Hospitals" was freely discussed and resulted in a resolution which was approved by the House of Delegates. Messrs. Wm. Gray, F. W. E. Stedem, B. E. Höckert, Robert J. Ruth, D. F. Jones, G. L. Harvey, I. A. Becker, G. C. Kendall and Joseph Jacobs participated in the discussion. The points brought out indicated that in some hospitals inexperienced dispensers were employed, prescriptions were dispensed at a profit, alcohol was dispensed; there was not always the appearance of hospital purposes but, at times, an evidence of conduct for profit; errors in some of these dispensaries were referred to; the question of the attitude of some supply houses came up for consideration, and the character of some hospitals. How all of these matters are to be corrected were leading questions of the debate; it was the consensus of opinion that the dispensers in hospitals should be qualified pharmacists.—See Resolution No. 20, p. 908, JOURNAL A. PH. A.

The paper by L. E. Sayre brought out differences in viewpoints.—See p. 975, JOURNAL A. PH. A.

After the reading of papers heretofore noted the first session of the Section on Practical Pharmacy and Dispensing was adjourned. The minutes of the Joint Session with the Scientific Section are included in the minutes of the latter.[5]

SECOND SESSION.

The second session of the Section on Practical Pharmacy and Dispensing was called to order by Chairman Robert J. Ruth at 2:30 P.M., September 7.

The following papers were read and discussed:

"Where Does the Hospital Pharmacist Stand,"[6] by Edward Swallow.

"Materia Medica in the Hospital Training School," by Frances Greenwalt.

"What Preparations Should and Ought to Be Made in the Hospital Laboratory," by B. E. Höckert.

"Jottings from a Hospital Pharmacy Notebook," by Ivor Griffith.

"Prescription Clinic," by Nichols and Nebinger.

In discussing the paper by Mr. Swallow, Mr. Griffith contended that the hospital pharmacist usually received recognition when he evidenced his capability; that there was opportunity for successfully conducting a laboratory. He was supported by Robert J. Ruth. Discussions on other contributions will accompany the papers when printed.

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* See pp. 865–868, JOURNAL A. PH. A. E. F. Cook asked whether it would be possible to provide formulas for isotonic solutions. The importance of isotonic solutions was emphasized by several and a more extended use advocated. Discussions will accompany papers, when printed.

[1] See p. 864, JOUR. A. PH. A.

[2] See p. 869, JOUR. A. PH. A.

[3] See p. 975, JOUR. A. PH. A.

[4] See p. 872, JOUR. A. PH. A.

[5] See December issue, JOUR. A. PH. A., pp. 1122–1124.

[6] See p. 870, JOUR. A. PH. A.

After the conclusion of the prescription clinic by Adley B. Nichols the report of the Committee on Nominations was called for and resulted in the election of Robert J. Ruth, of Pennsylvania, for *Chairman;* William H. Ford, of Ohio, for *Secretary; Associates:* H. Lionel Meredith, Maryland; Edward Swallow, New York; George Judisch, Iowa; Frances M. Greenwalt, Minnesota; Cornelia Cunningham, Tennessee; Frances Douglas, Illinois; *Delegate to the House of Delegates,* Irwin A. Becker, Illinois.

Favorable comments were made on the successful sessions of the Section.

The officers were duly installed and the Section adjourned.

## SECTION ON COMMERCIAL INTERESTS.

The first session of the Section on Commercial Interests was called to order at 8:30 A.M., September 5, by Chairman Walter M. Chase. Secretary Henry B. Smith assumed the chair during the reading of the

### CHAIRMAN'S ADDRESS.

In view of the present plans for reorganizing the American Pharmaceutical Association, plans which in their essence provide a more adequate representation for the State associations, it would seem that the responsibilities of the Section on Commercial Interests should take on a deeper significance. State organizations are, in the main, made up of men actively engaged in the retail business and their biggest problems are those connected with the commercial side of the calling. Unless these problems are given most earnest consideration the State organizations cannot be expected to plunge wholeheartedly into the work.

Useless it is to try to dodge the issue—drug stores to-day are service stations catering to the wants of the people. Like the men engaged in any other calling, medicine, truck-driving, or what not, it is squarely up to druggists to give the public what it demands.

True enough, some of our larger cities boast stores which derive the bulk of their revenue from strictly pharmaceutical operations, but these drug stores owe their existence to popular demand and more firmly demonstrate the premise that the public must be served. A building tenanted by physicians requires a drug store specializing in prescription work; a structure full of office workers demands a store that supplies fountain pens, cigarettes, face powder, and similar articles.

The condition is an actual one. If the druggist is to keep his sign over his door he must supply what his customers want.

Whether the business is conducted along so-called professional lines or whether it verges on the luncheonette-hairnet type is immaterial. In either case a knowledge of business fundamentals is essential. The man who prices prescriptions by guess is just as likely to become a financial cropper as is the one who lets the bugaboo of competition dictate his selling figures.

Operating any kind of drug store under present-day conditions calls for an intimate knowledge of merchandising methods. The dealer must know how and what to buy, how to keep his expenses down to a point where net profits will be a tangible and not an imaginary figure, how to boost his volume of sales if expenses cannot be met from his present volume, and—most important of all, perhaps—how to build up a business that will continue from year to year.

These are things that cannot always be learned from books; they must frequently come from experience, from observation, and from contact with fellow merchants.

Here is where the Section on Commercial Interests will be of value. It can serve as a clearing house for the exchange of information and the interchange of ideas. It can, if its scope is broadened sufficiently, act as a medium for the dissemination of commercial knowledge that will go a long way toward bolstering up many of the ragged businesses which are tottering on the brink of bankruptcy. Statistics show the life of the average retail drug store to be only a little in excess of seven years—a sad commentary indeed on a calling which takes nearly that length of time to prepare to enter.

It is not beyond reason to expect that a plan of activity could be worked out, extending over a period of years possibly, whereby the Section would be of real value in providing better business information for the druggists of the country.

It is my personal opinion that one of the strongest appeals which could be made in enlisting the coöperation of the State bodies in the work of the parent Association would be a broadening of the activities of the Section on Commercial Interests along the lines suggested. The other Sections adequately take care of the professional side of the calling, but the commercial end

has been permitted to lag. And with commercial problems engaging practically ninety per cent. of the average retailer's time, this phase of the matter is indeed important.

Attempts have been made before by this organization to secure the coöperation of the State associations along commercial lines, as witness this extract from the By-Laws: "The officers of the Section on Commercial Interests—shall propose each year a subject for discussion at the meetings of the State associations, and at the following annual meeting of the association shall present a report of the action of the State associations upon the subject proposed."

The practice directed by the By-Laws has been allowed to go by default, so I am told, because little interest has ever been shown by the State organizations. Only a few of them have ever given the proposed subjects serious consideration, because in the main, the State officers have felt that but little bond existed between them and the officers of the national body. When the reorganization plan begins to function, however, a closer union will be effected and enough coöperation can probably be obtained to warrant starting a movement or investigation on a commercial subject of mutual interest.

But before starting to enlist support from the State associations, it remains for the members of the parent body to take a more active interest in affairs relating to commercialism.

During the past twelve months the officers of the Section on Commercial Interests have given considerable time to securing papers for presentation before this year's sessions. Over a hundred and fifty letters were mailed to members and over a score of members were interviewed personally. The men approached in these ways were men whose leanings are along commercial lines and men who might reasonably be expected to attend the annual meeting and present their papers in person. Included in the list were retailers, wholesalers, manufacturers, clerks, and teachers in whose schools commercial subjects are taught.

What was the result? Over a third of the members addressed ignored the invitation completely, an almost equally large number replied that they weren't interested or were not planning to take in this year's meeting, and only a comparative few accepted. And incidentally I may add, despite the fact that the program of the Section on Commercial Interests, in common with that of all other Sections, is open to any one who desires to submit a paper, not a single such contribution has been received.

I realize, of course, that not every member can be expected to prepare a paper for the annual meeting, and what I have said is in no sense to be considered as mere carping criticism. It does indicate, however, I believe, that interest in commercial affairs on the part of the Association members in general is not at the high point it should be nor at the peak it must attain if the Association is to do its part in interesting the members of State organizations. Commercial problems are vital to these men, and if the Section on Commercial Interests can help a long step in the proper direction will have been taken.

In advancing the foregoing suggestions I do not make them in the sense of recommendations for immediate action. Rather are they ideas which may be pondered by future officers of the Section. The time for action is when A. Ph. A. reorganization is a reality.

I do believe, however, that the time is now ripe for taking a more or less definite attitude in regard to the teaching of business subjects in our schools of pharmacy, and with this idea in mind it has been decided to have as part of this year's program of the Section on Commercial Interests a symposium on the subject, "Should Courses in Business Administration Be Included in the Curricula of Pharmacy Colleges and, if so, to What Extent?"

Representatives of a number of schools have promised to present their opinions in the matter and it is expected that the discussions will bring out a number of conflicting ideas.

Copies of these papers, together with stenographic transcripts of the discussions, should be presented to the American Conference of Pharmaceutical Faculties as a basis for further investigation. A committee from the Conference should then be appointed to serve with a similar committee from the Section on Commercial Interests, and an effort made to bring about more uniformity in the business administration courses taught in our colleges. I recommend that such action be taken.

On motion duly seconded and carried the Chairman's address was referred to a committee consisting of Messrs. W. Bruce Philip, Jacob Diner and Theodore J. Bradley.

The Chairman appointed as a Committee on Nominations, P. Henry Utech, W. Bruce Philip and W. L. Scoville.

The next order of business was the reading of papers. The Chairman announced that it was necessary to make some changes in the order of the program on account of several contributors who could not be present at the second session of the Section. Discussions will accompany the papers when printed. The following papers were read and discussed:

"What a Big City Store Holds Out for the Recent Graduate,"[1] by C. H. Rudes.

"Teaching Pharmaceutical Law,"[1] by Howard Kirk, Esq.

"Price Maintenance," by Henry B. Smith.

"The Commercial Advantages of a Local Association," by John H. Webster.

"A Panacea for Commercial Success,"[2] by Harry B. Mason.

"Safeguarding American Pharmacy," by Samuel C. Henry.

Next followed a symposium on "Should Courses in Business Administration Be Included in the Curricula of Pharmacy Colleges and, if so, to What Extent?" The participants in this symposium were Dean Edward Spease, Western Reserve University; Dean Theodore J. Bradley, Massachusetts College of Pharmacy; Professor Charles H. Stocking, University of Michigan; Dean Robert P. Fischelis, New Jersey College of Pharmacy; Dean Frederick J. Wulling, University of Minnesota. These contributions with discussion thereon will be printed in a succeeding issue of the JOURNAL.[3] It was requested that a copy of this symposium be transmitted to the American Conference of Pharmaceutical Faculties.

The first session of the Section on Commercial Interests was then adjourned.

## SECOND SESSION.

The second session of the Section on Commercial Interests was called to order at 8:30 A.M., September 7, by Chairman Walter M. Chase. The first order of business was the reading of the minutes. They were approved. Following this was the report of the Committee on the Chairman's address, during the reading of which Secretary B. Smith presided.

The report of the Committee on the Chairman's Address was made verbally by Chairman W. Bruce Philip who on behalf of the members expressed appreciation of the valuable address and the committee concurred in the suggestion of the chairman that copies of the papers included in the symposium together with the discussions should be presented to the American Conference of Pharmaceutical Faculties, as a basis for further investigation. A committee from the Conference should then be appointed to serve with a similar committee from the Section on Commercial Interests and an effort made to bring about more uniformity in the Business Administration courses taught in our pharmacy colleges. The report of the committee was accepted and approved.

A paper by F. W. E. Stedem on "Uncharted Commercial Outlets" was read and discussed. Thereafter Chairman Chase stated that the discussions on the symposium had not been completed at the first session.

A paper by Frank H. Freericks on "American Pharmacy Overlooking the Psychological Opportunity" was read and discussed. It was referred to the Section on Education and Legislation. Discussion was participated in by Messrs. Henry B. Smith, Leon Monell, D. F. Jones, F. E. Mortenson, W. Bruce Philip, F. W. E. Stedem, Joseph Jacobs, E. Fullerton Cook, F. H. Freericks and others.

A paper on "Window Displays and Their Application in Schools of Pharmacy," by E. R. Serles and "Chain Stores in the United States," by Clyde L. Eddy were read by title and referred for publication.

A paper on the "Purpose of the Coöperative Wholesale Drug Companies and What They Are Accomplishing" was read by R. E. Lee Williamson. There was no discussion.

"Retail Salesmanship" was the subject of a paper by Turner F. Currens.

The next three papers dealt with prescriptions. The first was by John Culley on "Prescription Pricing Psychology;" "Comments on Prescription Pricing," by Charles R. Weills; and "Prescription Writing as Viewed by Doctor and Druggist," by E. Fullerton Cook. These papers were discussed by Messrs. W. Bruce Philip, D. F. Jones, Theodore Wetterstroem, P. Henry Utech, F. H. Freericks, W. A. Frost, Henry B. Smith and others.

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[1] October JOUR. A. PH. A., p. 874.

[2] November JOUR. A. PH. A., p. 982.

[3] At the time of preparing these minutes only part of the papers of the symposium had been returned to the Editor.

A paper on "Service Possibilities" was presented by Ambrose Hunsberger. This concluded the reading of papers.

The report of the Committee on Nominations was called for and presented by Chairman P. Henry Utech. The following nominees were reported: *Chairman*, Henry B. Smith, New York; *Secretary*, W. Bruce Philip, California; *Delegate to the House of Delegates*, John H. Webster, Michigan. The report of the committee was accepted and after a ballot the nominees were declared the officers for the ensuing year.

A rising vote of thanks was extended the retiring chairman.

Chairman Henry B. Smith stated that the work of this Section was of great interest to all members because it related to the finances and conduct of business. He asked for the hearty coöperation of all members and invited suggestions relative to the program for next year. The Section on Commercial Interests was then adjourned.

## SECTION ON HISTORICAL PHARMACY.

The first session of the Section on Historical Pharmacy, A. Ph. A., was convened by Chairman Clyde L. Eddy at 9:00 A.M., Wednesday, September 5.

Chairman Eddy summarized the work that had been accomplished on the History of American Pharmacy. On request of members present the introduction of the chapter on Pharmaceutical Journalism, by Francis B. Hays, was read by the chairman. It evidenced not only the historical value of the report but also a most interesting writer. General approval was given by an attentive and appreciative audience.

During the reading of Chairman Eddy's address Secretary Robert S. Lehman presided; the address follows:

### ADDRESS OF THE CHAIRMAN.

So far as I am aware there never has been compiled a complete, consecutive history of American Pharmacy. The Fiftieth Anniversary meeting of this Association, held in 1902, was largely devoted to the reading and discussion of historical papers and a notable symposium appears in the Annual Proceedings of that year. The Fiftieth Anniversary edition of the *Druggists Circular*, published in 1907, contains many excellent papers covering practically every field of pharmaceutical endeavor. The recently issued history of the Philadelphia College of Pharmacy and Science contains a wealth of material and the files of the American Pharmaceutical Association, including the papers that have been presented from year to year at the meetings of this Section are rich in historical data, but with all this, there still is not available to the student a complete, consecutive and down-to-the-minute history of the science and art of pharmacy in America.

When I was made chairman of the Section on Historical Pharmacy a year ago it occurred to me that the Section might to advantage devote a year at least to the compilation of such a history and, accordingly, I communicated with a number of pharmacists in various branches of the profession and asked them to collaborate in the writing of such a record of events. For convenience the subject was divided into eleven chapters covering as many phases of pharmacy, scientific and commercial, and as many men were invited to contribute monographs covering the history of the branch of pharmacy in which he was largely interested, the chairman of the Section reserving for himself the task of preparing an introductory chapter and serving as editor of the whole work.

The following chapters were assigned early in the year:

PHARMACEUTICAL EDUCATION.—A history of pharmaceutical education in America. The development of the colleges, the spirit behind the educational movement. To include dates of the founding of the earlier schools, the passage of prerequisite laws, etc. To touch upon recognition given gradually to pharmacy as a profession. Possibly a forecast of the future.—Wortley F. Rudd.

PHARMACY LAWS IN AMERICA.—A survey of the earliest pharmacy laws, how the laws have been supported. The evolution of pharmacy laws in America. Dates of the passage of pharmacy laws in the various States. The spirit of the laws. The growth of idea of reciprocity.—H. C. Christensen.

PHARMACEUTICAL ASSOCIATIONS.—To include a history of the national, State and some of the more important local associations. The tendency toward organization. What

the associations have accomplished, what they plan. Their functions. History of the Kansas Plan, etc.—J. G. Beard.

THE PRACTICE OF PHARMACY IN RETAIL STORES.—How the actual practice of pharmacy has changed since Colonial Days. The processes of the old apothecary and how they have developed. The daily routine in the old apothecary shop, the drug store of 1850 and of to-day. What changes have occurred, when and why?—Robert S. Lehman.

COMMERCIAL PHARMACY.—The development of commercial practices in the retail store. Why the changes have occurred. Origin of cut price movement and modern merchandising in drug stores. Origin and growth of chain stores, etc. Prospect of the future.—Harry S. Noel.

FEDERAL LAWS AFFECTING PHARMACY.—Stamp and tax laws. Narcotic, prohibition, pure food and drug laws and other federal statutes affecting pharmacy. When and why enacted. Influence of laws on retail business, etc.—Jacob Diner.

THE PHARMACOPŒIA AND NATIONAL FORMULARY.*—History of origin and development of U. S. P. and N. F. Why and how made official, etc.—E. Fullerton Cook.

BIOGRAPHICAL SKETCHES.—A series of fifteen "lives" of prominent pharmacists, men who have accomplished *significant* things in pharmacy Arranged chronologically, intended to cover entire history of the profession in America.—Caswell A. Mayo.

MANUFACTURING PHARMACY.—A history of manufacturing pharmacy. Progress made, beginning with earliest manufacturing on large scale. Evolution from small scale manufacturing. Scientific progress, various fields covered. Comparison of modern manufacturing plant with early ones. Histories of individual plants in some instances. Date and importance of scientific discoveries.—A. R. L. Dohme.

WHOLESALE DISTRIBUTION.—History of wholesale distribution, including histories of some more important wholesale houses. Development of plan of distribution.—C. H. Waterbury.

PHARMACEUTICAL JOURNALISM.—Origin and growth of pharmaceutical journalism and the idea behind it. History of the journals. The place of the journals in the growth of the profession.—Francis B. Hays.

Of course, it was understood that the several authors would enlarge upon this outline as they saw fit.

These chapters were assigned early in the year and work has been progressing rapidly but a year has been found too short a time for the completion of the history. It is all volunteer work, which in every case has had to be done in the hours that could be spared from other work and needed recreation. There has been difficulty in getting material in. Secretaries of boards and associations and individuals to whom appeals have been made for historical data have been tardy in replying to letters addressed to them or have failed to reply to them at all. In some cases other volunteer work has of necessity taken precedence over this, making it impossible for some of the collaborators to finish their chapters.

But much of the work is done. Completed manuscripts of four of the chapters have been turned in and several others are nearing completion. Preliminary reports have been made on all of the unfinished chapters and I am confident that another twelve months will suffice for the completion of the final monograph. I recommend, therefore, that the Section continue the work during the ensuing year.

When all of the monographs have been turned in and the work is finished I am certain that it will be a valuable contribution to pharmaceutical literature and, in order that it might be preserved and made available for reference at all times, I hope that the Historical Section next year will see fit to recommend to the Association that the completed text be printed in book form.

*Contemporary History.*

As now projected, the history that we are working on will bring up to date the history of the profession in America. It will show pharmacy in its infancy, the first manufactory, the first colleges, the gradual growth of the idea that pharmacists should be qualified professionally.

* Upon request of Professor Cook this chapter has been divided and the part relating to the history of the National Formulary has been taken over by Chairman W. L. Scoville.

It will trace the growth of the prerequisite movement, the spread of commercialism, the evolution of pharmacy laws. It will trace, step by step, the history of pharmacy in the United States.

And then, having brought the history of pharmacy up to date, I hope that the Section will arrange to keep it so by making an ordered survey of each year's history a part of each annual program. I realize that much of this already is being done in the annual report of the historian and have only to suggest that there be added to his report a brief summary of legislative activities, etc., under such titles as "the prerequisite movement" (showing each year the advances made in this direction); "reciprocity" (showing development of reciprocity among the various States; etc., etc.).

Finally, I wish to thank all of those who have kindly consented to prepare chapters in the projected History of American Pharmacy and to pledge them my support in an effort to make it a creditable work.

Respectfully submitted, Clyde L. Eddy, *Chairman.*

The report of Chairman Eddy was received and it was moved that the work on the History of American Pharmacy be continued.[1] On motion of C. A. Mayo the scope was enlarged to include a history of pharmacy in the Government Service.—Carried.

The report of the historian was read; it follows:

HISTORIAN'S REPORT.

The historian desires first to congratulate the chairman and secretary of this Section and other contributors on what will constitute the major part of this year's program—a History of American Pharmacy. The monographs will doubtless be of present interest, and hereafter valuable as references, for history speaks of action, witnesses the past; instructs for present application and directs the course of development.

With only a few exceptions the papers contributed to the Section on Historical Pharmacy of last year have been published, either in abstract or complete; all of them have been referred to with some comment in the minutes of the Section. The paper of our honorary member, Mr. William Kirkby, is printed in the September number of the JOURNAL. It is most interesting to note the connection of pharmacy with other industries, how pharmacy is influenced and how it affects other activities—the varied program of this Section last year indicated that.—Our secretary in describing the evolution of postage and delivery stamps associated the druggist with the development of the local express and postal delivery systems. E. V. Howell connected up folk-lore and pharmacy; Edward Kremers illustrated famous apothecary shops of the past and traced the influence of pharmacy on the trend of population in this country; H. W. Felter brought forward the backgrounds, foundations and founders of American materia medica in his illustrated lecture, which recently has been published in much more comprehensive form; H. M. Whelpley passed into review some of the events of earlier conventions; and James H. Beal spoke of the life of S. A. D. Sheppard whose labors in behalf of the American Pharmaceutical Association helped to make its history. In like manner all the other papers bring out some relation of the individual member, of pharmacy, or the drug business as part of the history of pharmacy. Some of the subjects were concerned with members of the section of the country we are meeting in, drug stores, and men who achieved greatness in other lines; they include a sketch of the late Ex-President Simpson, the story of Apothecaries' Hall of Charleston, and of O. Henry whose last complete story, "Let Me Feel Your Pulse," was partly written in Dr. Pinckney Herbert's Office at Asheville.

Ex-President E. L. Patch, who presided at the last Asheville meeting, is still with us. The veteran of the A. Ph. A. ex-presidents, Dr. John F. Hancock, will celebrate his 89th birthday next Sunday, September 9th. He joined the Association 60 years ago. In years Ex-President Joseph L. Lemberger is 3 months younger than Dr. Hancock, but in point of membership in the A. Ph. A. the former is the senior of the latter by 5 years, having affiliated with the organization in 1858. Ex-President Hancock, who presided at the 1873 A. Ph. A. meeting, had hoped

[1] Secretary A. G. DuMez, of the Council, A. Ph. A., transmitted the following: "At the meeting of the Council held on September 3, 1923, it was moved and carried that the secretary be instructed to bring to the attention of the Section on Historical Pharmacy the fact that four (4) years hence we will reach the 75th anniversary of the Association, in order that the Section might begin to make the necessary preparations for the occasion."

to attend this convention, but his health will not permit of the long journey.[1] A word from the American Pharmaceutical Association would please and cheer Mrs. Hancock and the venerable ex-presidents; Mrs. Patch passed away less than a year ago.

Among those who have gone before during the year are the following: Peter J. Arbes, New Ulm, Minn.; John Best, Denver; Stephen O. Blair, Monroe, N. C.; Charles E. Brack, Baltimore, Md.; Arthur L. Cheney, Morrisville, Vt.; Albert E. Clyde, Glencoe, Ill.; William H. Dewender, Brooklyn, N. Y.; William S. Disbrow, Newark, N. J.; Sol. Eckstein, Milwaukee,; Ernest G. Ely, Barnesville, Ohio; Charles F. Fish, Saratoga Springs, N. Y.; Chas. M. Ford, Los Angeles; Oliver F. Fuller, Chicago; Halley H. Gaetz, Hamilton, Canada; Frank H. Galbraith, Milwaukee; Henry M. Gordin, Chicago; Miss Rosamond A. Guinn, New Bedford, Mass.; E. H. Gwinn, Victor, Ia.; E. H. Hechler, Cleveland; John Hepburn, Flushing, N. Y.; Adolph J. Hoenny, St. Louis; Louis C. Hogan, Chicago; Horace O. Hurley, Louisville; John Hurley, Little Falls, N. Y.; Manuel Johnson, Havana, Cuba; H. S. Kirk, Sacramento, Cal.; Charles N. Lehman, Tottenville, N. Y.; Theodore R. L. Loud, New York; Clement B. Lowe, Vineland, N. J.; Alfred Mellor, Philadelphia; Adolph W. Miller, Philadelphia; Ernest Monier, Boston, Mass.; Louis Philip Ohliger, Detroit; William M. Oliver, Elizabeth, N. J.; Claus K. Opjorden, Milan, Minn.; M. M. Osborne, Radford, Va.; Miss Annie M. Patterson, Baltimore; Henry C. Porter, Towanda, Pa.; Benjamin F. Quackenbush, New York; James S. Robinson, Memphis; George H. Schafer, Fort Madison, Ia.; William J. Schneider, Winona, Minn.; Charles R. Sherman, Omaha; Harvey N. Siegenthaler (1921), Springfield, Ohio; Frank A. Southard, Buffalo, N. Y.; Maurice A. Train, Chicago, Ill.; J. F. Whitley, Gilliam, La.; Tobias J. Widrig, Newport, Ky.; N. Emery Williams, St. Louis; William A. Wilson, Independence, La.

Eight of the foregoing were members of the American Pharmaceutical Association for more than 50 years—John Best, Charles F. Fish, Oliver F. Fuller, John Hepburn, Alfred Mellor, Adolph W. Miller, L. P. Ohliger, James S. Robinson and George H. Schafer. One of the ex-presidents of the Association died during the year, Dr. George F. Payne, of Atlanta; two were honorary presidents—Oliver F. Fuller and George H. Schafer. The latter and James S. Robinson attended the Cleveland meeting and, at that time, were looking forward to meet again at Asheville. The death of two of our honorary members was reported during the year—Dr. Arthur Meyer of Marburg, Germany, and Dr. Hermann Schelenz, of Cassell, Germany. The latter contributed a paper on "The History of Emulsions," several years ago, which has appeared in the *Apotheker Zeitung* and a translation is to be made for the JOURNAL A. PH. A. One of the deceased, Sol Eckstein, was an ex-president of the National Association of Retail Druggists. A number of the deceased were active in the section work of the Association, some taught pharmacy, and most of them were engaged as retail pharmacists. It has not always been possible to obtain a sketch of deceased members and this prompts the repetition that all members, who have not done so, should send to the historian a photograph accompanied by a sketch or data of the principal events of their lives.

Last year you requested the historian to prepare an index of all matter in the files for the Section on Historical Pharmacy; he desires to report progress. There is not such a large amount of material, most of it comprising clippings which the reporter has gathered. As spare time permits this will be alphabetically arranged and indexed. Reports have been made at different times and printed with the annual messages of the historian. With comparatively few exceptions, the papers have been printed; no memoranda have been presented with illustrated lectures but in some instances slides have been donated and some of the lecturers are preparing to donate sets, which were used in illustrating their addresses. It is impossible, at this time, to publish lengthy historical articles, but most of those heretofore presented are published elsewhere as, for example, in State association proceedings, in book form, and one of the articles on Kansas legislation has been retyped by Secretary H. C. Christensen. The time when the Association will be housed in its own home is approaching and this will offer the facilities so essential for filing, which is now almost impossible, and for storing, exhibiting, etc.

"Chemical Chronology and Pharmaceutical Events of 1822," by Otto Raubenheimer, was published in the present volume of the JOURNAL, pp. 49 and 153. Among other items of historical interest are the following:

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[1] The death of Ex-President John F. Hancock is reported in the December number, JOUR. A. PH. A.

The tricentenary of the death of Pierre Richer de Belleval brings to mind that the Montpelier Faculty of Pharmacy is located at the botanical gardens which were restored by Belleval at his own expense in 1623, after destruction by the troops of Louis XIII, who made this garden a sort of "No Man's Land," in 1622. He died at Montpelier in 1623.

Progress is being made in investigations relating to the Mulford Exploration of the Amazon.

In the *National Gazette* of a century ago drug culture is described. The *Philadelphia Medical Reporter* of 1873 contains articles on Mate and Yupon; relative to the latter the statement is made that the U. S. Department of Agriculture is seeking to supplant tea and coffee by it. The subject is part of the program of our Scientific Section this year.

Events of 1923 include the following: Prof. Émile Perrot, honorary member of the A. Ph. A., was awarded the Hanbury Medal; a monument is being erected to Dr. Jokichi Takamine in Tokio, he was for many years a member of the A. PH. A.; the Remington Honor Medal was awarded to Dr. H. H. Rusby; Prof. Thoms visited in the United States, stopping on his journey to Japan; Dr. Frederick B. Power was awarded the Flueckiger Medal; a Golden Jubilee commemorated 50 years of pharmaceutical research of Prof. Dr. Tschirch; the First Century of the Philadelphia College of Pharmacy and Science has been commemorated by an historical volume; Veteran Druggists' Associations have been organized in Minneapolis and New York; Dr. Edward Jenner died January 26, 1823, an exhibit in his honor was a feature during the early part of this year at the Wellcome Historical Museum, London; Jean Henri Fabre was born in 1823, commemorated in France; Professor Roentgen died February 10, 1923; Baron Liebig died in 1873, commemorated by scientific organizations; May 27th has been designated "Pasteur Day" in France—celebrations in his honor were held last fall; William Bartram died July 22, 1823, he studied the flora of the Carolinas; the Silver Anniversary meeting of the National Association of Retail Druggists will be held this month (September 1923), in Boston; the International Pharmaceutical Federation convened in London during July; the discovery of insulin is probably the most important event related to materia media of the past year, and in that connection the closer relation of the laboratories of colleges and of the industries and the professions is significant.

In closing I wish to repeat that when headquarters for the American Pharmaceutical Association becomes an accomplishment the rooms for historical pharmacy will be a most interesting section of the building, and many of the records that are largely historical which are now lost to pharmacy will be preserved. Much material is in colleges that is in the way, but has real historical value; the same is true of the pharmaceutical industries—retail, wholesale and manufacturing. Also the pharmaceutical publications have matter that should be preserved; if material of this kind is wrapped or boxed, marked and set aside for the day of the completion of the headquarters building, the donors will have much satisfaction when they see it properly exhibited and cataloged.

Always glad to be of service.

Respectfully submitted,

E. G. EBERLE, *Historian.*

The report was received for publication.

A paper by Joseph Jacobs on "The True Discoverer of Anaesthesia a Pharmacist-Physician, Crawford Williamson Long," was read. A motion was made by C. H. LaWall, seconded by C. A. Mayo, that wide publicity be given to the article.—Carried. See abstract of discussion following the paper.[1]

Two papers by Edward Kremers were presented by title—"Pharmaceutical Nomenclature" and "A Literary Pharmacopœia."

Chairman Eddy appointed H. C. Christensen, E. Fullerton Cook and W. F. Rudd members of the Committee on Nominations.

The chairman at this time spoke of the progress of the work on the history of pharmacy.

H. M. Whelpley turned over to the historian a volume which was started for the A. PH. A. in 1852, containing the Constitution and By-Laws of the Association. In former years the members signed these and the volume contains the signatures of those attending the first convention and many of those in attendance at later meetings.

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[1] This issue, JOUR. A. PH. A., p. 51.

H. M. Whelpley gave an account of the Asheville meeting twenty-nine years ago. The slides illustrating the address were shown at the second session of the Section.[1]

The members expressed their interest in Dr. Whelpley's account of the former Asheville meeting and the historical relation of other conventions. Chairman Eddy outlined his introductory to the History of American Pharmacy.

J. G. Beard made a preliminary report on "Pharmaceutical Associations." The amount of matter which enters into the preparation of this part clearly shows the work involved.

W. F. Rudd preferred to defer presentation of his report as this part of the history has a bearing on the other sections of the work. Some changes may be necessary after the other reports have been completed. Professor Rudd's wishes were complied with.

Chairman Eddy called on Dr. A. R. L. Dohme, who spoke in part as follows:

"The work that Mr. Eddy is undertaking in writing the History of Pharmacy is perhaps the most important that this Association could do for accomplishing the very laudable purpose of presenting to the medical profession, the officials of government in State and nation, and to the general public, the true worth and value as well as importance of the pharmaceutical profession to the life, health and well-being of the people of this country.

"A history of pharmacy if properly and thoroughly written is a very creditable chapter in the development and history of this country, but very few people apparently fully appreciate the importance of pharmacists' work in their daily lives; especially is this so at this time.

"To quote Professor Hermann Thoms, head of the Pharmaceutical Institute of the University of Berlin, who is probably the best authority on pharmacy in Germany to-day and who recently visited this country—'Gradually but with no uncertain steps has American Pharmacy developed and risen to the very forefront of pharmaceutical knowledge and research in the world. The Pharmacopœia of the United States truly represents to-day the most advanced publication of authority among the pharmacopœias of the world, but this would not have been possible without the development in the United States of a scientific pharmacy of high efficiency and value.'

"It will take some time to properly and thoroughly write this history, and my appeal is to the rank and file of pharmacy in all its branches in this country to coöperate and do their share in making this history complete and thorough. If this is done the work of Mr. Eddy and those associated with him in this work will have done for the American Pharmaceutical Association and for American Pharmacy a work of real value, the importance of which it is difficult to estimate at this time."

He briefly touched upon the part of the work he has undertaken to do. In his opinion the chapter on manufacturing pharmacy should record the real development and changes that have taken place in the preparation of pharmaceuticals from early times until the present.

Frederick J. Wulling in his remarks referred to the need of each association preparing a history of its activities and then, each year, adding to the historical records. The same thought applies to the schools, colleges and industries. Without such records history is apt to be inaccurate.

H. C. Christensen spoke briefly of his part of the work and reported progress. He explained in detail the great amount of research necessary in order to have proper sequence and record the development of legislation. He said many of the State associations had not been heard from.

E. G. Eberle stated that in the compilation of laws applying to pharmacy the date of enactment was frequently omitted. A search of records will reveal that information, but it would be a convenience to have this in the volume now in process of preparation.

Dr. Dohme was requested to speak of the work of this Section in General Session and ask for coöperation of all members, so that the contributors to the History of American Pharmacy may be aided.

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[1] It is hoped to present the address in a later issue of the JOURNAL. It must suffice at this time to say that the address presented many interesting historical data which should be recorded in these pages. Events of the former Asheville convention, as well as those of preceding and succeeding meetings, were told with attention to detail and personal characteristics of individuals.

H. C. Christensen reported for the Committee on Nominations that all the present officers had been renominated. The session was then adjourned.

SECOND SESSION.

Chairman Clyde L. Eddy called the second session of the Section on Historical Pharmacy to order at 10:00 A.M., September 6. The minutes of the first session of the Section were read and approved.

C. A. Mayo presented a series of lantern slides of noted American pharmacists, biographies of whom will appear in the History of American Pharmacy. He gave a brief sketch of each as the pictures were shown; the following is a list: Daniel B. Smith, Lewis C. Diehl, John M. Maisch, Joseph P. Remington, S. A. D. Sheppard, H. P. Hynson, Charles Caspari, Jr., Charles Rice, C. S. N. Hallberg, Oscar Oldberg, Albert Prescott, Martin I. Wilbert, Albert E. Ebert, Edward Parrish, William Procter, Jr.

Pictures of the former Asheville A. Ph. A convention were then shown by H. M. Whelpley; most, if not all, of the pictures from which the slides were made were taken by him; the coloring of them represents the work of Mrs. Whelpley, who, if the writer is not in error, has attended every annual convention of the A. Ph. A. since and inclusive of that of 1892.

While part of the remarks relating to the pictures shown were made at the first session, seeing the outstanding figures of pharmacy at the annual convention and, particularly, those at the former Asheville meeting, brought fond recollections and much more was interestingly told of the occurrences and of the participants. The pictures related to many conventions and to individuals, not always while attending the American Pharmaceutical Association. The more extended references related to those who have gone before. An attempt to describe the pictures without the illustrations is impossible, except for the one who gave the illustrated lecture. It was more than interesting and enjoyed by all.

Chairman E. Fullerton Cook, of the U. S. P. Revision Committee, said that in his opinion other names should be added to Mr. Mayo's list.

It was explained that more than 15 names may be needed, but a larger number might not emphasize the importance of the leaders in pharmacy as well.

Mr. Cook then outlined his part in the History of American Pharmacy. He gave a brief account of the first pharmacopœias and then some of the main points of later editions and of the men who figured in these revisions.*

Chairman Eddy referred to the important chapter of the history relating to the practice of pharmacy in retail stores, which is being prepared by Robert S. Lehman. This chapter will trace the beginnings of pharmacy in this country to its present development.

H. M. Whelpley contended that the work could hardly be completed in another year; he also referred to the appointment of a committee for the 75th Anniversary Meeting of the Association. The members of that committee are: George M. Beringer, W. F. Rudd, Jacob Diner, A. G. DuMez, H. M. Whelpley, *Chairman*.

H. M. Whelpley referred to a movement he had started some years ago that the outgoing president of the A. Ph. A. address a letter to the president to come one hundred years after, in which the former depicted pharmaceutical conditions of his day, thus writing history for the pharmacists of another century. He hoped the idea would meet with favor and that addressing future presidents would become a duty of outgoing A. Ph. A. presidents.

The report of the Committee on Nominations was made and by vote the present officers of the Section on Historical Pharmacy were reëlected. Chairman Eddy responded for the officers.

Thomas D. McElhenie said that Toronto would be an appropriate place for holding the 75th Anniversary Meeting.

On motion duly seconded and a vote the Section was adjourned.

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*The history relating to the National Formulary and its development is being prepared by Chairman W. L. Scoville.

# ASSOCIATION BUSINESS

## AD INTERIM BUSINESS OF THE BOARD OF DIRECTORS.

Office of the Secretary, 192 Roseville Ave., Newark, N. J.

LETTER NO. 9.

January 3, 1924.

*To the Members of the Board of Directors:*

*46. Minutes of the Third Meeting of the Board of Directors, American Pharmaceutical Association:* The third meeting of the Board of Directors of the American Pharmaceutical Association was called to order by Chairman Beal, at the Hotel Washington, Washington, D. C., at 9:25 A.M., December 7, 1923. The following members of the Board were present: Whelpley, Beringer, Godding, Hilton, Scoville, Beal, LaWall, Fischelis, Arny, Kelly and Day.

The following were present by invitation and were extended the privilege of the floor: E. G. Eberle, H. C. Christensen, L. L. Walton and A. G. DuMez.

The chairman called for a report of the committee appointed to draw up by-laws for the Board, and the report was read by Chairman Fischelis of the committee. The proposed by-laws were then considered section by section, and amended, after which upon motion by Beringer, seconded by Arny, they were adopted as a whole. The by-laws as adopted read as follows:

### BY-LAWS OF THE BOARD OF DIRECTORS.

### CHAPTER I.

#### THE ELECTION OF OFFICERS.

*Article 1.* The officers of the Board of Directors shall consist of a Chairman, a Vice-Chairman and a Secretary who shall be elected for a term of one year or until their successors shall be chosen.

They shall be elected and assume the duties of their respective offices at the organization meeting of the Board held immediately after the final general session of the American Pharmaceutical Association at its annual convention.

*Article 2.* The Chairman shall preside at all meetings of the Board of Directors and in his absence or on account of inability from any cause, the Vice-Chairman shall assume the duties of the Chairman or, in the absence of both, a Chairman *pro tempore* shall perform the duties of the Chairman.

*Article 3.* The Secretary shall keep fair and correct minutes of the proceedings of the meetings and carefully preserve all reports and communications received by the Board of Directors. He shall receive an annual salary not to exceed $300 and the amount of his expenses incident to the meeting, in addition to his salary.

He shall conduct the official correspondence of the Board of Directors and arrange for the transaction of the business of the Board of Directors by correspondence in the interim between meetings. He shall announce all votes promptly and keep the members of the Board informed of all business at regular intervals.

### CHAPTER II.

#### COMMITTEES.

*Article 1.* The standing Committees of the Board of Directors shall consist of a Committee on Finance, a Committee on Property and Funds and a Committee on Publications.

*Article 2.* The Committee on Finance shall consist of three members of the Board of Directors to be appointed by the Chairman of the Board, subject to the approval of the Board and shall each year, previous to January 1, present to the Board for its consideration a list of appropriations to cover the various expenditures of the ensuing fiscal year. No payment shall be made in excess of any of the said appropriations, except by a special vote of the Board of Directors. Provided, however, that the Treasurer is authorized to transfer from one appropriation account to another such amount as may be needed at any time, the amount of any such transfer not to exceed the sum of fifty ($50.00) dollars.

All motions and resolutions involving the expenditure of any sum in excess of $25.00 shall

have the approval of the Finance Committee before being acted upon by the Board of Directors.

All appropriations made for any fiscal year shall lapse at the end of the said fiscal year. Provided, however, that accounts properly chargeable against any of said appropriations prior to their expiration, but not received by the Secretary of the Association until after the end of the fiscal year, may be paid from such appropriation, in case the warrant for such payment be drawn not later than thirty days after the expiration of said fiscal year.

*Article 3.* The Committee on Property and Funds shall consist of the President, the Treasurer, the Chairman of the Board, the Chairman of the Committee on Finance and the Secretary of the Association.

It shall have charge of the administration of all of the property and established funds of the Association.

The Committee shall consider applications for grants from the interest derived from the established funds and at as early a date as possible shall report to the Board of Directors such recommendations as may be deemed proper.

The Board of Directors shall pass upon the recommendations of the Committee and in case the grants are approved, the Chairman of the Board shall direct orders to be drawn upon the Treasury in favor of those to whom grants have been made.

*Article 4.* The Committee on Publications shall be appointed by the Chairman of the Board and shall consist of three members of the Board of Directors, subject to approval by the Board of Directors, the Editor-in-chief of the JOURNAL, the Secretary of the Association and the Editor of the YEAR BOOK and the Treasurer. The Chairman of the Committee shall be appointed by the Chairman of the Board. The Editor of the JOURNAL and the Editor of the YEAR BOOK shall have no vote in the Committee.

The Committee on Publication shall have charge of the editing, publication and distribution of the YEAR BOOK and the JOURNAL of the Association and such other publications as may be issued under the rules and regulations to be approved by the Board of Directors The Committee may delegate the authority for editing, publishing and distributing the JOURNAL and YEAR BOOK to the respective editors subject to such rules and regulations as the Committee may pass from time to time.

The Editor-in-chief of the JOURNAL and the Editor of the YEAR BOOK shall be elected by the Board of Directors and shall receive for their services such compensation as the Board may direct.

In case of resignation, illness or other inability of an Editor to carry on the work of the JOURNAL or the YEAR BOOK or other publications the Committee on Publication shall be authorized to make the best arrangements possible to continue the work.

*Article 5.* Special Committees may be appointed as needed and shall expire at the end of the annual meeting unless specific provision is made for their continuance.

## CHAPTER III.

### MEETINGS.

*Article 1.* The Board of Directors shall meet previous to the assembling of the Association and at such other times as it may determine, or at the call of the Chairman.

On the written applications of five members of the Board, the Chairman shall call a special meeting.

Six members of the Board shall constitute a quorum.

## CHAPTER IV.

### ORDER OF BUSINESS.

*Article 1.* The order of business at regular meetings of the Board of Directors shall be as follows unless otherwise determined.

1. Call to order and roll call.
2. Reading of minutes.
3. Reading of communications.
4. Reports of committees.
5. Unfinished and deferred business or such business as is especially referred to the Board from the Association.

6. The election of members of the Association.
7. New business.
8. Adjournment.

## CHAPTER V.

### MISCELLANEOUS.

*Article 1.* A majority of the members of any of the standing committees shall constitute a quorum for the transaction of business.

*Article 2.* Questions arising in the interim between meetings may be submitted to the members by mail and motions so submitted shall not require a second. A majority of the votes cast, provided they constitute a quorum of the Board or Committee, shall decide the question.

*Article 3.* Every proposition to alter or amend these by-laws shall be submitted in writing at one session and may be balloted for at the next session of the Board, when upon receiving a vote of three-fourths of the members present it shall become a part of these by-laws.

The report of the Committee on Committees was then called for and read by the Secretary of the Board. The suggestions of the Committee were that the following standing Committees be appointed, to facilitate the work of the Board: a Committee on Finance, a Committee on Publications and a Committee on Property and Funds. Upon motion by Arny, seconded by Beringer, the report was approved.

The question of providing for the appointment of certain special committees of the Association and delegates which had been referred to the Board of Directors' Committee on Committees was then discussed. The outcome of the discussion was a motion by Whelpley, seconded by LaWall, that the Board of Directors concur in the ruling of the Chairman of the Board, that the Constitution and By-Laws of the Association now provide for the appointment of special committees by the Chairman of the House of Delegates, and the appointment of delegates to other associations, by the President of the Association. The motion was carried.

It was moved by Beringer, seconded by Whelpley, that it is the sense of the Board of Directors that the Committee on Pharmaceutical Nomenclature be appointed by the President of the Association and report to the Scientific Section: that the Committee on Health Insurance, the Committee on Patents and Trade Marks, the Committee on Pharmacists in the Government Service, the Committee on Time and Place of Meeting, and the Committee on Affiliation of Pharmacists and Physicians be appointed by the Chairman of the House of Delegates, and report to the House of Delegates; that the Committee on Physiological Testing be appointed by the President and report to the Scientific Section; that the Committee on Weights and Measures be appointed by the President and report to the House of Delegates; that the Committee on Procter Fund be appointed by the Board of Directors and report to the Board of Directors; and that the Board of Directors recommend to the Committee on Constitution and By-Laws that provisions be made accordingly. The motion was carried.

Chairman Beal asked Dr. Walton to present his suggestions on the necessary changes in the Constitution and By-Laws of the Association. Dr. Walton read his suggested changes and commented on them.

It was moved by LaWall, seconded by Kelly, that Dr. Walton be given a unanimous vote of thanks by the Board for his painstaking study of the subject. The motion was carried.

It was moved by LaWall, seconded by Kelly, that Dr. Walton's suggestions be referred to the Committee on Constitution and By-Laws, and that the individual members of the Board be asked to study the suggestions carefully and send comments and suggestions to the Chairman of the Committee on Constitution and By-Laws within thirty days. The motion was carried.

It was moved by Arny, seconded by LaWall, that the Committee on Constitution and By-Laws of the Association be authorized to hold a special meeting as soon as convenient for the purpose of considering revision of the Constitution and By-Laws of the Association, and that Dr. Walton be asked to meet with the Committee. The motion was carried.

The first session of the meeting adjourned at 12:50 P.M. to meet again at 2:00 P.M.

The second session of the third meeting of the Board of Directors of the American Pharmaceutical Association was called to order at 2:15 P.M. by Chairman Beal. The following members

of the Board were present: Whelpley, Beringer, Godding, Hilton, Scoville, Beal, LaWall, Fischelis, Arny, Kelly and Day. The following were present by invitation: E. G. Eberle, H. C. Christensen, A. G. DuMez, L. L. Walton and H. A. B. Dunning.

The first subject opened for discussion was the offer of the American Druggists' Fire Insurance Co. to provide headquarters for the American Pharmaceutical Association in its proposed new building in Cincinnati. Dr. Beal, as Chairman of the Committee on Headquarters Building, reported the progress that had been made by his committee and recommended that the Secretary of the Association be instructed to send a letter of thanks to the American Druggists' Fire Insurance Co. and ask that the limit of the offer be extended six months. A motion to this effect made by Whelpley, seconded by Arny, was carried.

Dr. Beal then called attention to the fact that he had invited Dr. Dunning to present his plan for raising funds for the headquarters building of the American Pharmaceutical Association and asked Dr. Dunning to present his plans. Dr. Dunning explained the plan in detail and it was then discussed by Messrs. Beal, Arny, Whelpley, Scoville, Kelly, Hilton, Day and Fischelis. It was moved by Whelpley, seconded by Beringer, that a campaign committee of five be appointed, with Dr. Dunning as Chairman, to coöperate with the present headquarters committee. The motion was carried.

It was moved by Hilton, seconded by Scoville, that the vote to ask the American Druggists' Fire Insurance Co. for an extension of time on their offer be reconsidered. The motion was carried.

It was moved by Hilton, seconded by Beringer, that in the judgment of the Board of Directors it would be unwise to accept the generous offer of the American Druggists' Fire Insurance Co. The motion was carried. The Secretary was instructed to advise the company of the action of the Board.

It was moved by Whelpley, seconded by Arny, that the American Pharmaceutical Association headquarters building should be arranged to offer office space to affiliated national associations. The motion was carried.

It was moved by LaWall, seconded by Whelpley, that subscriptions for the headquarters building fund be taken with the understanding that the actual location of the headquarters building be decided upon by a vote of the entire membership. The motion was carried.

It was moved by LaWall, seconded by Beringer that any portion of the contributed sum not required for building and equipment be placed in a permanent fund, the income of which only, can be used for maintaining the building or research work. The motion was carried.

It was moved by Godding, seconded by Whelpley, that the expense of the campaign for contributions shall be paid out of the current funds. The motion was carried.

It was moved by Whelpley, seconded by Beringer, that contributions of at least $25, from non-members, shall entitle the contributor to a year's membership in the Association, and that contributions of $1000 or more from any member or non-member shall entitle such contributor to life membership in the Association. The motion was carried with one dissenting vote. Dr. Arny desired to be recorded as voting "no."

It was moved by Whelpley, seconded by Beringer, that the Secretary, the Treasurer and the Editor of the JOURNAL be notified of the foregoing action so that steps can be taken to properly classify those who become members by virtue of their contributions. The motion was carried.

Dr. Kelly read the following letter:

"WM. B. DAY, Gen. Secty.
Chicago, Ill.

"My dear Mr. Day:

"In winding up our expense account for the meeting of the A. Ph. A. held at Asheville, N. C., Sept. 1923, I find we have an excess of receipts over disbursements of practically 45%.

"We have refunded all the donors to this fund at this rate, and as we collected from 292 tickets issued members of the A. Ph. A. at $4.00 each or $1168.00, we thought it nothing but fair to refund 45% of this amount to the A. Ph. A. to be used in their building fund, or for any other purpose the proper officers see fit.

"I am enclosing check for $526.60 and will ask you to have the proper officer acknowledge receipt of same to me.

"It was found impossible to issue check of $1.80, to each of the members in attendance, and this is the best disposition I can make of same.

Sincerely,
C. A. RAYSOR,
*Treas., Amer. Ph. Assn. Local Fund.*"

It was moved by Beringer, seconded by Scoville, that Mr. Raysor's letter be acknowledged with thanks and that the $526.60 be added to the headquarters building fund. The motion was carried.

Dr. Hilton read the following statement and resolution passed at the recent meeting of the National Drug Trade Conference and called the attention of the Board to the importance of the subject referred to, in the resolution:

"It is the unanimous opinion of the representatives of the various drug and pharmaceutical organizations comprising the National Drug Trade Conference here assembled that the Digest of Comments on the U. S. Pharmacopœia and the National Formulary, compiled and issued by the Hygienic Laboratory of the Public Health Service of the Treasury Department, fills an important need of, and is of great general value to medicine, chemistry and all branches of pharmacy and the drug trade.

"The discontinuance of this publication, which has appeared annually for the past seventeen years, would be a distinct loss to these interests, therefore,

"*Be it Resolved:*

"That the Surgeon-General of the United States Public Health Service be informed through the Secretary of the Treasury of the importance of this compilation to the drug, medical chemical and pharmaceutical interests and of the esteem in which it is held by them; that it be pointed out that the need for this publication has in nowise diminished since the work was first begun and that an interruption at this time, or any other time, would mean a serious loss to those who have come to depend upon the publication for information unobtainable elsewhere;

"That the Surgeon-General be urged to set an adequate force to work on this compilation so that it may be brought up to date and thus made of the utmost value to those who use it.

"In this connection, it is desired to call attention to the fact that when the work was first begun, there were four people engaged in the task, whereas we have been informed that there are only two on the work at present, and they do not give their full time to it."

It was moved by Hilton, seconded by Arny, that the Secretary be instructed to notify the Secretary of the Treasury and the Surgeon-General of the U. S. Public Health Service of the need for the Digest of Comments on U. S. P. and N. F. The motion was carried.

Dr. Kelly introduced Mr. Horn and Mr. Kennady of the Horn and Shafer Co., printers, of Baltimore, Md., who presented a plan for increasing the advertising in the JOURNAL and taking over both the printing and soliciting of advertising. After these gentlemen had answered a number of questions propounded by Messrs. Beringer, Whelpley and Fischelis, the meeting adjourned at 6:45 P.M. to reconvene at 8 P.M.

The third session of the third meeting of the Board of Directors was called to order by Chairman Beal at 8 P.M.

The Secretary presented the following applications for membership numbered 186 to 255, which were unanimously approved. The Secretary was instructed to cast a ballot electing the applicants to membership and the applicants were declared to be duly elected.

No. 186, Edward L. Estes, 314 Washington St., Portland, Oregon; No. 187, Perry Orville King, LaCrosse, Washington; No. 188, W. Hal. McNair, 29 North Main St., Ashland, Oregon; No. 189, A. Rodamar, c/o Levinger Drug Co., Baker, Oregon; No. 190, Lawrence L. Coleman, 395 E. Burnside, Portland, Oregon; No. 191, Sidney R. Allen, 86—9th Ave., East, Eugene, Oregon; No. 192, C. S. Blackmon, c/o Blackmon Drug Co., Haines, Oregon; No. 193, Oliver Long, Tobaccoville, N. Carolina; No. 194, James Lee Thompson, Chapel Hill, N. C.; No. 195, Percy Owen Maloney, R. F. D. No. 1, Bothell, Washington; No. 196, Harriet Vivian Snidow, 1002 E. 42nd St., Seattle, Washington; No. 197, Floyd G. Pettengill, 4308—9 N. E., Seattle, Washington; No. 198, Frank A. Lee, 425—15th Ave., North, Seattle, Washington; No. 199, Joseph Raymond Anderson, 2214 No. 56th St., Seattle, Washington; No. 200, Russell Arnon Cain, 912 E. Lynn St., Seattle, Washington; No 201, Harold Kurlander, 5821 Clemens Ave., St. Louis, Mo.; No. 202, Homer

Elwood Simpson, 318, 320 Market St., Norfolk, Va.; No. 203, Emerson Lee Mann, Big Stone Gap, Va.; No. 204, Louis Marra, 50 Fourth St., Providence, R. I.; No. 205, Oscar Bernard Kessler, 1020 S. Paulina St., Chicago, Ill.; No. 206, Charles Louis Van der Aue, 2325 S. Millard Ave., Chicago, Ill.; No. 207, Rose Steinberg, 4911 N. Lawndale Ave., Chicago, Ill.; No. 208, D. S. Williams, Pembroke, Va.; No 209, H. Gold, 920 Maxwell St., Chicago, Ill.; No. 210, Lloyd E. Maso, Altoona, Iowa; No. 211, David Sidney Goldberg, 702 E. 51st St., Chicago, Ill.; No. 212, Murl Edward Beauchamp, 1301 W. Capitol Ave., Little Rock, Ark.; No. 213, Clarence Edgar Dieterichs, 1766 Sunnyside Ave., Chicago, Ill.; No. 214, Paul Keneth Williams, Williams Drug Co., Vinita, Okla.; No. 215, Herman Henry Horst, 309 So. Main St., Stuttgart, Ark.; No. 216, George Wm. Novotny, 172 So. Longcommon Road, Riverside, Ill.; No. 217, Charles Edward Crook, 2361 Whitney Ave., Hamden, Conn.; No 218, Fred B. Watkins, 16 W. Main St., Grafton, W. Va.; No. 219, John J. Revicha, 5406 So. Hermitage Ave., Chicago, Ill.; No. 220, Paul F. G. Reisbich, 11 No. Main St., Belleville, Ill.; No. 221, Jesse Leroy Peavy, Dierks, Ark.; No. 222, Charles Curtis Pate, 159 W. 80th St., New York City; No. 223, A. B. Hunt, McNeil, Ark.; No. 224, R. L. Meek, Ashdown, Ark.; No. 225, Herbert W. Parker, 504 Main St., Jonesboro, Ark.

Editor Eberle submitted a report to the Board of Directors for publishing the JOURNAL for 1924. Parts of the report follow, partly in abstract.

"The Editor has conferred with quite a number of publishers. Some preferred not to bid on the work and others simply made the statement that the prices for the coming year were the same prices they had made last year. This was practically true with all of them."

"I have had a new copy made of comparisons made last year. The prices last year were based on 128 reading and ad pages and for 4000 copies. The bids for this year are for 96 pages and on the basis of 4400 copies."

"The prices submitted by the Eschenbach Printing Co. are the same as at the present time except on paper, presswork and binding for which they have made a graded reduction when the number of copies printed is 4000 or more. They have also submitted prices which scale downward for 5000, 10,000, 15,000, 20,000 and 30,000. The basis of our comparison, however, must be the price actually charged us by the Eschenbach Printing Co. for the September number as we have asked other publishers to use that number as a basis for their calculation. The Eschenbach Printing Co.'s price for publishing the JOURNAL not including cuts or postage which are cash items was $702.08."

I have not gone into great detail, simply using the above as a basis and to determine whether other publishers were lower. In going through the list it is clearly evident that the Eschenbach Printing Co. is lower than other publishers who have submitted bids. Bids were asked from the following, some of which simply reaffirmed their bid of last year. They are: Franklin Printing Company of Philadelphia, the Shade Printing Co. of Philadelphia, Stoneman Press of Columbus, Ohio, the Printing Products Corp. of Chicago, J. B. Lippincott Co. of Philadelphia, the Intelligencer Printing Co. of Lancaster, the Joseph Borning Printing Co. of Cincinnati, the Lancaster Press of Lancaster, Pa., and the Horn-Shafer Co. of Baltimore.

"It is understood, of course, that the prices made are not to be given to others who have favored the JOURNAL with bids. To all of them we are thankful. It is necessary for us to keep in touch with other publishers so that we may know that the Association is getting the best possible prices and service. I am confident as far as it is possible to determine that we are getting exceptionally good prices and it is only just to say that the Eschenbach Printing Co. comply strictly with their agreement and always exhibit an interest in the publication of the JOURNAL. I recommend that the printing of the JOURNAL be continued with the Eschenbach Printing Co.

E. G. EBERLE, *Editor*."

It was moved by Arny, seconded by Beringer, that the report of the Editor be received and the proposed contract with the Eschenbach Printing Co. for printing the JOURNAL during 1924, be approved. The motion was carried.

It was moved by LaWall, seconded by Hilton, that the Committee on Endowment Fund be requested to remain inactive while the Committee on Headquarters Building Fund is soliciting contributions.

The question of a bulletin service to the members of the American Pharmaceutical Association was then brought up. The correspondence of Dr. Newcomb based on the resolution relating

to bulletin service, passed by the Association at the Asheville convention, was read and copies of bulletins sent out by the Northwest Pharmaceutical Bureau were shown to the members. All of the Board members in attendance took part in the discussion and it was finally moved by Beringer, seconded by LaWall, that a sum not exceeding $1000 be appropriated to issue four bulletins to the entire membership along lines suggested by Dr. Newcomb and that a questionnaire in the form of a return card be attached to each of the three bulletins on which members can indicate their desire to have the supply of bulletins continued and that the bulletin service shall be continued or discontinued on the basis of the desire expressed by the membership. The motion was carried.

Dr. Arny called attention to the present status of the proposed A. Ph. A. Recipe Book. He explained that Chairman Lascoff of the Committee on Recipe Book was ready to go ahead with the editing of some of the "copy" and had requested an appropriation for editorial assistance. Some of the members of the Board were of the opinion that the work of gathering recipes and trying them out had not received as detailed a study as might be desired. It was moved by LaWall, seconded by Scoville, that President Arny and Secretary Fischelis be appointed a Special Committee to investigate and report on the present status of the Recipe Book.

It was moved by Whelpley, seconded by Arny, that the Secretary be authorized to procure such stationery as is necessary for conducting the work of this office and that the names and addresses of the members of the Board appear thereon. The motion was carried.

It was moved by Whelpley, seconded by LaWall, that the Secretary be instructed to edit the minutes of the Board of Directors before sending them to the Editor of the JOURNAL.

Chairman Beal announced the following committee appointments. Committee on Finance: C. H. LaWall, *Chairman*, H. M. Whelpley and E. F. Kelly. Committee on Publication: R. P. Fischelis, *Chairman*, G. M. Beringer, H. V. Arny, Secretary Day, Treasurer Kelly and Editors Eberle and DuMez.

The members of the Committee on Property and Funds are specified in the by-laws adopted by the Board. The committee appointments were approved by the Board.

It was moved by Hilton, seconded by LaWall, that the Treasurer be authorized to transfer $600 to the travel expense account. The motion was carried.

It was moved by LaWall, seconded by Arny, that the expenses of E. G. Eberle and L. L. Walton incident to attending this meeting be paid by the Association. The motion was carried.

It was moved by Whelpley, seconded by Arny, that the general rules, the rules of finance and the rules of publication be referred to the Committee on Constitution and By-Laws for consideration in connection with the general revision of the by-laws. The motion was carried.

It was moved by Beringer, seconded by Fischelis, that the Finance Committee be directed to engage a competent auditing firm to audit the accounts of the Treasurer. The motion was carried.

Upon motion by Scoville, seconded by Arny, the meeting adjourned at 11:25 P.M.

ROBERT P. FISCHELIS,
*Secretary*, Board of Directors, A. Ph. A.

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# COMMITTEE REPORTS

## REPORT OF THE PHARMACEUTICAL SYLLABUS COMMITTEE SEPTEMBER 1, 1923.*

*To the American Pharmaceutical Association:*

The Pharmaceutical Syllabus Committee makes the following report for the past year:

The third edition of the *Pharmaceutical Syllabus* was issued and distributed late in 1922. The *Syllabus* endeavors to aid the colleges of pharmacy in planning their courses and the boards of pharmacy in preparing their examinations. It serves as a means for coördinating the work of the colleges and the boards. There is nothing compulsory about the use of the *Syllabus*, however, as it tries to be helpful to those who need or desire to use it and no one is obliged to use any part that he does not find helpful.

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* The report was adopted and referred with favorable recommendation to the Board of Directors.

The *Syllabus* has been prepared by a committee made up of representatives of three national pharmaceutical organizations, of which yours is one. Naturally, there have been many differences of opinion shown in the committee and among those who have used the book, and these led to severe criticisms of the first edition and some criticisms of the second edition. While the present committee is aware of some shortcomings in the third edition, it is pleasant to report that the new edition appears to be giving general satisfaction. The *Syllabus* has undoubtedly justified its existence and each edition has shown a great improvement over the preceding one, so that it is becoming more and more useful to those it is designed to be used by.

All members of the Syllabus Committee serve entirely without pay and some of them have made substantial contributions of supplies and clerical assistance, in addition to their own considerable services. The expenses of the work have been limited to the cost of printing and distributing the book, with only a slight addition for postage and other incidentals. Each of the three organizations represented in the work contribute twenty-five dollars a year towards its expenses and the committee has managed to make it otherwise self-supporting. At the present moment, there is an unpaid balance of six hundred dollars on the cost of making the new edition but this is the only indebtedness and it is amply secured by the copies of the book on hand. The income from the contributions and the sale of the *Syllabus* will extinguish the debt in a reasonably short time.

If a vote to continue the contribution of twenty-five dollars per year by your organization is necessary, it is requested and recommended that this be taken, as the assistance is needed.

Respectfully submitted,
THEODORE J. BRADLEY, *Chairman*,
For the Committee.

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## REPORT OF THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE.*

*To the American Pharmaceutical Association:*

Your Committee on Horticultural Nomenclature during the past year has been continuing its work in reading and correcting proof for the "Official Catalogue of Standardized Plant Names" and in conjunction with the representatives of the several other organizations constituting the American Joint Committee of Horticultural Nomenclature has now completed its work. The printing of the Catalogue is rapidly nearing completion and should, we understand, be on the market in the near future. It is to be hoped that this work, which has taken several years to compile and for which our Association has contributed both of its money and energy, will be well patronized by the membership of this Association.

Respectfully submitted,
HEBER W. YOUNGKEN, *Chairman*,
E. N. GATHERCOAL,
F. E. STEWART.

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## OFFICERS OF METRIC ASSOCIATION.

The following were elected to office in the Metric Association at the recent meeting at Cincinnati: Dr. George F. Kunz, of New York City, president; Theodore Miller, first vice-president; Arthur E. Kennely, Cambridge, Mass., second vice-president; W. P. Dobson, Toronto, Canada, third vice-president; Howard Richards, 156 Fifth Avenue, New York City, secretary; and Frederic L. Roberts, New York, treasurer.

## FREDERICK M. BECKET PERKIN MEDALIST.

Dr. Frederick M. Becket, of New York, received the Perkin Medal, awarded annually by the Society of Chemical Industry "for the most valuable achievement in applied chemistry made by any citizen of the United States," at a meeting of the American Section of the Society at the Chemists' Club, New York City.

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* The report was received. The book has been completed since the above report was made at Asheville.—EDITOR.

# EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Board of Directors, A. PH. A.: JAMES H. BEAL, *Chairman;* S. L. HILTON, *Vice-Chairman;* ROBERT P. FISCHELIS, *Secretary;* CHARLES H. LAWALL, HENRY M. WHELPLEY, JOHN G. GODDING, GEORGE M. BERINGER, CHARLES E. CASPARI, W. L. SCOVILLE. *Ex-Officio:* H. V. ARNY, President; WILLIAM B. DAY, Secretary; E. F. KELLY, Treasurer. Committee on Publications: R. P. Fischelis, *Chairman;* H. V. Arny; Geo. M. Beringer; E. F. Kelly; Wm. B. Day; A. G. DuMez; E. G. Eberle.

Collaborators: The members of the Board of Directors; the Editor of the YEAR BOOK, A. G. DUMEZ, Hygienic Laboratory, Washington, D. C.; E. FULLERTON COOK, Chairman, U. S. P. Revision Committee; W. L. SCOVILLE, Chairman, N. F. Revision Committee; the Vice-Presidents-elect, A. Ph. A.: LYMAN F. KEBLER, F. E. BIBBINS, W. BRUCE PHILIP; the Chairmen of the Sections, A. Ph. A.: J. P. SNYDER, G. A. BERGY, ROBERT J. RUTH, HENRY B. SMITH, CLYDE L. EDDY; L. L. WALTON, Chairman of the House of Delegates, A. Ph. A.: CHARLES W. JOHNSON, President A. C. P. F.; CHARLES B. JORDAN, Chairman Executive Committee, A. C. P. F.; F. E. MORTENSON, President, N. A. B. P.; HENRY C. CHRISTENSEN, Secretary, N. A. B. P.

## ASSOCIATION AND INDIVIDUAL INTEREST ESSENTIAL FOR CARRYING THROUGH CONGRESS A PRICE MAINTENANCE MEASURE.

It is very evident that Congressmen are receiving many communications urging their support of the Merritt and the Kelly-Stephens bills. This is not sufficient however; the efforts must be continued and everyone who can possibly do so must be importuned to use his influence. There is no question but that the outlook for the passage of a price maintenance measure is better than ever before but hopefulness must not be sidetracked by overconfidence. Until a price maintenance measure has been signed there is danger of failure. The time to concentrate on bringing to pass such an enactment is now and your efforts will count for much.

## PRESENT YOUR VIEWS TO YOUR CONGRESSMEN ON TAX MEASURES.

Whatever your views may be relative to the tax measures which are and will be considered by Congress, you have an interest which should be communicated to your representatives. The help of an individual may be small but that of many gives strength to every promotion. You will not have yourself to blame if you do your part and coöperate with others. There is no intention to express herein a preference but only to persuade you to evidence your interest in legislation that affects all business.

## COÖPERATION OF MEDICAL MEN AND SOCIAL SERVICE WORKERS.

Just as medical practice can no longer be carried on efficiently without pathologists and a score of other specially trained associates of the surgeon and physician, and can no longer be conceived as satisfactory without the assistance of the professionally trained nurse, so the public and the medical and nursing professions are rapidly realizing that these forces already active must have added to them the coöperation of the professional social service worker who can bring to the disposition of each case essential knowledge of the social unit from which the patient comes, and the social resources available for application to the treatment, convalescence and social rehabilitation of the patient, and the prevention of recurrence of the conditions and illness. We need to emphasize and educate the public and the professional groups concerned to see and apply a broad program of coöperation and partnership on a basis of respect and equality among members of the professions of medicine, nursing and social work.—W. F. Snow, *Hosp. Social Service*, 8, 188 (Oct.), 1923.—Through *Journal A. M. A.*

The above is good as far as it goes but, certainly, pharmacists and dentists should be included; perhaps this was the intention in using the plural "professions" of medicine.

## PRESIDENT CROUCH OF THE ARIZONA PHARMACEUTICAL ASSOCIATION EXPRESSES THE VALUE OF ORGANIZATION.

President A. G. Crouch of the Arizona Pharmaceutical Association has addressed a communication to every pharmacist in Arizona. In this communication he has outlined in a rather original way the difference between

organization and individual effort. We reproduce the following from that communication which was printed in the *Pharmaceutical Era* of January 5th.

"Did it ever occur to you that a mere man wrapped up in himself is a 'small parcel,' but when he is wrapped up in a movement of the organization worth doing, he multiplies himself a hundredfold; he must be enthusiastic, have the good of the organization at heart, and be a booster, pusher and puller. . . Many druggists are like a good strong barrel with both heads tightly fastened—good for transportation, but darn poor for distribution. Break open that old head of reserve, rip off the hoops of exclusiveness, kick in the staves of selfishness and let us fellows have the good rich ideas, thoughts and suggestions contained therein. Take an active part, go visit your competitor; you will find him human and that he has troubles as well as yourself. . . By working together you will be mutually benefited. Let us all spend our best effort towards making the Arizona Pharmaceutical Association a power in the advancement of Modern Pharmacy."

## PERSONAL AND NEWS ITEMS.

**George Judisch** is on the program of Minnesota Pharmaceutical Association for an address on "How I Conduct My Pharmacy." This address has been delivered before and the appreciation of pharmacists who have heard it persuaded the program committee to include this address.

**Ambrose Hunsberger** spoke on prohibition and narcotic regulations before the Pittsburgh meeting of Pennsylvania Medical Society. He was given close attention, applause and, thereafter, invited to participate in the deliberations of the Society.

**Louis Emanual,** member of the Pennsylvania Board of Pharmacy for a quarter of a century and its president for fifteen years, has been succeeded by **Charles C. Campbell** of Pittsburgh. **Henry W. Merritt,** a former president of the N. A. R. D., succeeds **Samuel Evans,** and **L. L. Walton** has been reappointed a member of the Board.

**Richard H. Lackey,** Philadelphia, has completed his 35th anniversary of proprietorship of his store at 5th and Lehigh Ave.

**Alphonse Major,** while recently driving his automobile to the Huntington, L. I., station, was run into by another car. Mr. Major suffered injuries from which he is recovering.

**Joseph L. Lemberger,** veteran pharmacist and member of the A. Ph. A., has retired from business; he is nearing his 90th birthday.

**John Uri Lloyd,** whose services to pharmacy, other sciences and contributions to literature are well and favorably known, found time recently to contribute an article on "Evolution in Business Ethics," printed in December *Practical Druggist.*

**John H. Webster,** president of the N. A. R. D., was sketched in the December *Druggists Circular.*

**John G. Godding** on January first announced "Pharmacy of Forty Years" in Boston's Back Bay District. Next year will be his fiftieth anniversary as member of the A. Ph. A.

**R. D. Keim** recently celebrated 20 years of service with E. R. Squibb and Son. On this occasion he was presented with a set of silver and a purse with enclosure, the sum of which has not been disclosed. Mr. Keim has also been elected to the directorate of the corporation.

**Dr. and Mrs. W. H. Zeigler** have announced the marriage of their daughter, Katherine Louise, to George F. Garis, Jr. Miss Katherine accompanied her parents to a number of A. Ph. A. meetings in recent years.

**Frank E. Mortenson,** president of the National Association of Boards of Pharmacy, was one of the principal speakers at the recent first annual meeting of Arizona Pharmaceutical Association.

**Caswell A. Mayo** is one of the organizers of the Ohio Botanical Society; the first general meeting of the Society was held December 14, a feature of the program was an illustrated lecture on "The Great Botanical Gardens of the World" by our fellow-member. While he had prepared the slides and lecture, illness prevented his attendance. The lecture was given by President James A. Green. Mr. Mayo is back at his desk.

**Alfred W. Pauley,** St. Louis, has been awarded the educational trophy, a solid silver loving cup, for the most outstanding and commercially valuable work during the year.

**Adolph Ziefle,** dean of the school of pharmacy of Oregon Agricultural College, is endeavoring to have the State establish a drug garden, basing his arguments on the many native medicinal plants of Oregon.

The News Edition of *Industrial and Engineering Chemistry,* of which Secretary **Robert**

**P. Fischelis** of the Board of Directors, A. Ph. A., is the managing editor, has completed its first year. The success accomplished promises further development in its service.

It has been decided to issue the new edition of the Rumanian Pharmacopœia in Rumanian and Latin, while the titles of the official articles will be given not only in these two languages, but also in French, Hungarian, German and Russian.

**Dr. Paul Siedler,** of Berlin—an editor of the *Pharmazeutische Zeitung* and of the reports of the German Pharmaceutical Society—visited in New York City during December. He spent part of his time with Editor Kantrowitz of the *Apotheker Zeitung*.

**Johann Anton Scopoli,** botanist and chemist, at Vienna, was born in 1723, in a village of Austrian Tyrol. He died in 1788.

The French Chamber of Deputies, December 20, unanimously voted a pension of 40,000 francs yearly for Mme. Curie, professor at the University of Paris, as the nation's tribute to her work in the discovery of radium and its developments, covering a period of twenty-five years.

## OBITUARY.

### SAMUEL P. SADTLER.

Samuel P. Sadtler, professor of chemistry at the Philadelphia College of Pharmacy for thirty-seven years and professor emeritus of the same institution since 1916, died December 20. He was born at Pine Grove, Pa., July 18, 1847.

He was a graduate of Pennsylvania College, studied at Lehigh and Harvard, received his B.Sc. degree from Lawrence Scientific School and his doctor's degree at the University of Göttingen. He taught at Pennsylvania College and for seventeen years he was professor at the University of Pennsylvania.

He was author of a number of well-known textbooks and works on industrial and medical chemistry, chemical editor of the United States Dispensatory and American editor of Attfield's Chemistry. He was the first president of the American Institute of Chemical Engineers, was member of many scientific organizations both of Europe and America. The books best known to pharmacists, aside from the Dispensatory, are "Industrial Organic Chemistry," "Sadtler and Coblentz's Pharmaceutical and Medical Chemistry."

### JOHN M. FRANCIS.

Just before completing this issue of the JOURNAL we are advised of the death of Dr. John M. Francis, of Detroit, member of the Revision Committee of the United States Pharmacopœia. Further mention of this eminent worker on pharmaceutical standards will be made in the February issue of the JOURNAL.

## IN MEMORY OF JOHN FRANCIS HANCOCK.

(*Continued from p. 1145, December issue.*)

E. L. PATCH.

My acquaintance with Dr. Hancock was mostly confined to our association at the annual meetings. Only once did I have the great pleasure of entertaining him at my home.

I early formed a profound esteem for him. His interests were very broad, being national and international in character, and his respect for sincere workers for pharmaceutical progress was unselfish. His outlook on life was wholesome and optimistic, always reflecting the joys and inspiration of his delightful home surroundings, which he was always glad to exalt. His physical, mental and social endowments were unusual and he made conscientious use of them for constant development. Only three years ago, on a visit to our laboratory, it was surprising to see him taking notes and hear his questionings with the fresh interest of a beginner. Such lives as his are a blessing to earth and any who come under their influence should be extremely thankful.

CASWELL A. MAYO.

The death of John F. Hancock removes one of the last survivors of the formative period of professional pharmacy in America. He was a potent factor in the shaping of the policies of the American Pharmaceutical Association and always an influence for good.

Among his contemporaries during the period of his greatest activity were Albert E. Ebert, C. Lewis Diehl, W. J. M. Gordon, William S.

Thompson, John M. Maisch and S. A. D. Sheppard. These were known to many of us, having only recently dropped out of the ranks. Other fair names and famous who were coworkers with him in the sixties and seventies are known to us only in the printed page. Among these were Wm. Procter, Jr., the Parrishes, John Milhau, Ezekiel Sargent, Edward S. Wayne, Frederick Hoffman, T. Roberts Baker, Edward R. Squibb, Enno Sander, Theodore Metcalf, Edwin O. Gale, Charles A. Heinitsch, J. Faris Moore, Geo. F. H. Markoe, and Charles Ellis.

The work these men did lives after them and Mr. Hancock did much to carry on the torch of professionalism in pharmacy.

Personally, he was a delightful example of the gentleman of the old school. Ever courteous, polite, helpful and considerate, it was a rare privilege to be counted among his friends. His death will bring a sense of personal loss to a wide circle for he was widely known and much loved by all who knew him.

WILLIAM B. DAY.

Every American pharmacist must feel a sense of personal loss in the passing of Dr. John F. Hancock who for so many years occupied a foremost place in American Pharmacy. Dr. Hancock entered upon his pharmaceutical career early in life and was an outstanding figure in the American Pharmaceutical Association for more than fifty years. In fact, in his presidential address at the convention of the American Pharmaceutical Association at the 22nd annual meeting of the Association, held in Louisville, Ky., in 1873, Dr. Hancock discussed in a most scholarly manner the outlook for American pharmacy and with far-sighted vision pointed out the need for a better preliminary education, a higher scientific training, and more thorough organization for the American pharmacists. His services as chairman of the Committee on Wm. Procter, Jr., Memorial during his later years have entitled him to the gratitude of his colleagues, for his labors in behalf of this memorial to his old teacher, Professor Procter, were untiring. It is hoped that Dr. Hancock's efforts will now bear fruit and that a fitting memorial to Wm. Procter, Jr., may soon be realized.

E. G. EBERLE.

Few, if any, knew Mr. Hancock better than his son—father and son were chums—the incidents occurred seldom that provoked the father's impatience and never did he ignore the value of others' opinions. Probably nothing pained him more than discord, certainly nothing more than uncharitableness.

He practiced toleration without effort and without formula, embodying resolves so infrequently made effective—"first, to attain the grace of silence; second, to deem all fault-finding that does no good a sin, and to resolve, when we are ourselves happy, not to poison the atmosphere for our neighbors...third, to practice the grace and virtue of praise."

He was charitable, he was tolerant.

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## SOCIETIES AND COLLEGES.

### NATIONAL DRUG TRADE CONFERENCE.

In presenting a report of the recent meeting of the National Drug Trade Conference we are making use of the *Bulletin* of the National Wholesale Druggists' Association.

The annual meeting of the National Drug Trade Conference was held in Washington December 6, following an extended meeting of the Executive Committee on December 5. The deliberations of the Conference were unusually comprehensive, covering not only serious problems arising in connection with the enforcement of the Prohibition law and recent developments of importance under the Pure Food and Drug law, but also the movement set on foot by the Secretary of the Treasury looking to tax reduction and the campaign recently instituted to secure legislation legalizing the maintenance of resale prices.

SUMMARY OF RESOLUTIONS ADOPTED.

The conclusions of the Conference were presented in concrete form in a series of resolutions endorsing the tax reduction plan of Secretary of the Treasury Mellon; approving the policies of Commissioner Blair and Secretary Mellon in appointing the Alcohol Trades Advisory Committee, and in revocation of drastic and unnecessary regulations imposed by the Prohibition Unit; protesting against the enactment of the Ernst-Wood bill and all similar measures designed to render the Prohibition Commissioner independent of departmental control; urging the divorcement of the supervision of

legitimate industry employing alcohol as a chemical raw material from the policing of liquor illegally used for beverage purposes; urging the committee of revision of the United States Pharmacopœia to adopt appropriate standards for whisky and brandy for strictly medicinal use; urging the creation of a narcotic unit in the Internal Revenue Bureau independent of the Prohibition Unit; creating a committee to discuss with the Secretary of Agriculture recent reported changes in the policy of the Bureau of Chemistry respecting the labelling of medicinal preparations and the beginning of multiple suits in widely separated jurisdictions based on alleged law violations; recommending the appointment of an advisory committee on the interpretation of the Federal Food and Drug law in so far as it applies to the drug trade; urging the continuance of the issuance of the Digest of Comments on the United States Pharmacopœia and National Formulary by the Public Health Service; and endorsing the principle underlying the bills now pending in Congress proposing the legalization of the maintenance of resale prices of identified merchandise.

The following delegates were in attendance: American Pharmaceutical Association, A. R. L. Dohme, J. H. Beal and S. L. Hilton; National Wholesale Druggists' Association, C. Mahlon Kline, C. W. Whittlesey and W. L. Crounse; American Pharmaceutical Manufacturers' Association, J. H. Foy, Carroll Dunham Smith and Harry Noonan; Proprietary Association, Harry B. Thompson, P. I. Heuisler and E. F. Kemp; National Association of Boards of Pharmacy, H. C. Christensen and W. T. Kerfoot, Jr.; American Conference of Pharmaceutical Faculties, E. F. Kelly, E. Fullerton Cook and W. F. Rudd; American Drug Manufacturers' Association, A. Homer Smith, Horace W. Bigelow and Carson P. Frailey; National Association of Retail Druggists, Samuel C. Henry, Ambrose Hunsberger and J. F. Finneran.

Others present to whom the privileges of the floor were extended were E. C. Brokmeyer, C. H. Waterbury, W. H. Blome, F. E. Holliday, R. M. Cain and A. L. I. Winne.

The attitude of the Conference on some of the questions of general interest to various branches of the drug trade was expressed in the resolutions which follow:

*Resolved*, That the National Drug Trade Conference takes this occasion to record an expression of its confidence in the integrity and ability of Commissioner Blair and Secretary Mellon and to acknowledge the timely and intelligent assistance rendered by them to the trades employing alcohol as an essential chemical raw material.

That the National Drug Trade Conference earnestly urges upon Congress the importance of promptly enacting a carefully framed law based upon the principle underlying the so-called "Kelly" and "Merritt" bills now pending in the House of Representatives.

That the president of the Drug Trade Conference be authorized to appoint a committee of this body with authority to appear before the House Committee on Interstate and Foreign Commerce at the hearings to be held upon the bills referred to and to present the hearty indorsement of this conference of the proposed legislation.

That the National Drug Trade Conference in annual meeting assembled hereby expresses its hearty approval of the so-called "Mellon plan" of tax reduction, and earnestly petitions Congress to promptly enact the necessary legislation to render effective the recommendations of the Secretary of the Treasury.

That copies of these resolutions be forwarded to Hon. Andrew W. Mellon, Secretary of the Treasury, and to Hon. Reed Smoot, chairman of the Senate Finance Committee, and Hon. William R. Green, chairman of the House Committee on Ways and Means.

That the National Drug Trade Conference in annual meeting assembled hereby protests against the enactment of the so-called "Ernst-Wood" bill and all similar bills, and calls upon the entire membership of the associations represented in this conference to oppose this vicious measure by all legitimate means.

That the National Drug Trade Conference in annual convention assembled reiterates its recommendation made at its last annual meeting that there be a separation of the functions of the supervision of alcohol for industrial purposes from the policing of violations of the prohibition law, and that there be appointed a deputy commissioner of equal rank with the Prohibition Commissioner and possessing suitable technical knowledge, training and experience, to take over the Industrial Alcohol and Chemical Division of the Prohibition Unit, to have charge of the issuing of permits and to perform such other functions as relate to the supervision of alcohol for all industrial purposes including the manufacture of medicines.

That the Surgeon-General of the United

States Public Health Service be informed through the Secretary of the Treasury of the importance of the compilation ("Digest of Comments on U. S. P. and N. F.") to the drug, medical and pharmaceutical interests and of the esteem in which it is held by them.

That it be pointed out that the need for this publication has in nowise diminished since the work was first begun and that an interruption at this time, or any other time, would mean a serious loss to those who have come to depend upon the publication for information unobtainable elsewhere.

That the Surgeon-General be urged to set an adequate force to work on this compilation so that it may be brought up to date and thus made of the utmost value to those who use it. In this connection it is desired to call attention to the fact that when the work was first begun there were four people engaged in the task, whereas we have been informed that there are only two on the work at present and they do not give their full time to it.

That the National Drug Trade Conference recommends that the Committee of Revision of the Pharmacopœia of the United States of America favorably consider the advisability of adopting appropriate pharmacopœial standards for whisky and brandy for strictly medicinal use.

The revision committee is reminded of the fact that the members of the drug trade were made the official source of medicinal spirits in spite of the expressed protests of their national organizations, that the drug trade is confined by law to limited sources of supply, and is at present without any legal standards by means of which the proper quality of the spirits can be estimated and enforced.

It is also the opinion of this conference that the adoption of such legal standards as will bring these medicinal compounds within the scope of the pure food and drugs act will materially aid in the intelligent enforcement of the federal prohibition act by enabling the government to utilize the services of the experienced and highly efficient Bureau of Chemistry of the United States Department of Agriculture.

That during the coming year the president of the conference be authorized to name representatives to speak for the conference in appearances before legislative or departmental bodies, or upon other appropriate occasions in matters of emergency not controversial among constituent members.

That the National Drug Trade Conference in annual meeting assembled hereby expresses its appreciation and thanks for the generosity and kindness shown by the N. A. R. D. Journal in printing without charge for distribution to the conference membership the minutes of the 1922 annual meeting.

That the president of the National Drug Trade Conference is hereby authorized and instructed to assess each constituent member of the conference the sum of twenty-five dollars ($25) as it is advisable to somewhat increase the immediately available funds of the conference at this time.

That affiliation with the United States Chamber of Commerce be continued for the ensuing year.

That this conference strongly recommends that a trade advisory committee be appointed by the Secretary of Agriculture or other appropriate authority, to advise with the Division of Drug Control of the Bureau of Chemistry regarding the interpretation of the food and drugs act in so far as the same applies to the drug trade.

That the president and secretary of this conference, with such aids as they may select, be authorized and instructed to bring this subject to the attention of the Secretary of Agriculture, or other appropriate authority, and to use their best endeavors to secure the appointment of such advisory committee.

That a committee of three be appointed to interview the Secretary of Agriculture of the United States and protest against the practice which has apparently grown up in the Bureau of Chemistry in the beginning of multiple actions under the pure food and drugs law in remote jurisdictions against reputable manufacturers until after opportunity has been had on citation for a hearing.

That a committee composed of one representative from each of the constituent bodies of this conference be appointed to confer and discuss with any parties who may be interested in the introduction of any legislation in the Congress of the United States relating to the manufacture and sale of intoxicating liquors for industrial and medicinal purposes, and that such committee be instructed to oppose any proposed legislation which will tend to hamper or destroy the lawful use only of such liquors.

That the National Drug Trade Conference in annual meeting assembled heartily indorse the recommendation of the American Drug Manufacturers' Association at its last annual

meeting that there be a separation of the functions of the enforcement of the national prohibition act and the enforcement of the federal narcotic laws and urging the creation of a separate unit of the Bureau of Internal Revenue to have sole charge of the enforcement of federal narcotic laws, the head of such unit to be responsible directly to the Commissioner of Internal Revenue.

That the National Drug Trade Conference oppose the imposition of such taxes as tend to place any special or inequitable burden upon the various branches of the drug trade.

That the National Drug Trade Conference expresses its unqualified indorsement of the recommendation made by President Coolidge in his message to Congress which calls for the abolition of nuisance taxes.

OFFICERS.

The election for officers resulted in the unanimous choice of the following: President, Samuel C. Henry, Chicago (reëlected); vice-president, H. C. Christensen, Chicago; secretary-treasurer, Carson P. Frailey, Washington; members of the executive committee (in addition to the president and the secretary), S. L. Hilton, C. Mahlon Kline, Harry Noonan, H. B. Thompson, W. T. Kerfoot, Jr., E. F. Kelly.

S. L. Hilton was named councilor in the Chamber of Commerce of the United States.

## DRUG TRADE BUREAU OF PUBLIC INFORMATION.

Following the meeting of the National Drug Trade Conference at the Hotel Washington, Washington, D. C., on December 6, the Drug Trade Bureau of Public information held its annual meeting. The report of the director, Dr. Robert P. Fischelis, outlined the accomplishments of the past year in the way of publicity for pharmacy and submitted a plan to engage the services of a trained journalist to handle certain features of the work, especially the preparation and circulation of important bulletins. This plan was approved with the understanding that the aggregate expense would not exceed that appropriated in the year 1923. The officers for 1923 were reëlected to serve in 1924, the same being Dr. R. P. Fischelis, President and News Director, and C. H. Waterbury, Secretary-Treasurer. Those represented at the meeting were:

American Drug Manufacturers' Association, C. P. Frailey.

American Pharmaceutical Association, Dr. R. P. Fischelis.

American Pharmaceutical Manufacturers' Association, J. H. Foy.

National Association of Boards of Pharmacy, H. C. Christensen.

National Association of Retail Druggists, Samuel C. Henry.

National Wholesale Druggists' Association, C. H. Waterbury.

Proprietary Association of America, E. F. Kemp.

The American Conference of Pharmaceutical Faculties was the only member not present. Dr. L. F. Kebler, of the Bureau of Chemistry, United States Department of Agriculture, was also present.

## IOWA PHARMACEUTICAL ASSOCIATION.

The "Great Northwest Drug Show" will be featured in Des Moines during the meeting of the Iowa Pharmaceutical Association. The officers of the Northwest pharmaceutical associations are taking an active part in developing the several programs and features of the exposition.

The Northwestern Pharmaceutical Bureau has invited State associations from that section to make displays at the show; some of the colleges of pharmacy will also be represented. It has been found that these expositions interest the public; at the one held in St. Paul last year, it is said, 50,000 people viewed the exhibits. It can therefore be seen how potent for good these expositions may be.

## MINNESOTA PHARMACEUTICAL ASSOCIATION.

The annual meeting of the Minnesota Pharmaceutical Association will be held at the Curtis Hotel, Minneapolis, February 12–14. No drug show will be held this year. The sessions on February 13th will be given over to the Scientific and Practical Pharmacy Section, and the Northwestern Branch of the American Pharmaceutical Association will participate in this work.

## OKLAHOMA PREPARING FOR ANNUAL MEETING.

The annual meeting of Oklahoma Pharmaceutical Association will be held April 15–17,

at Ardmore. The local committee in charge comprises W. R. Shackelford, V. A. Grisson, M. M. Johnson. V. A. Gravitt, C. A. Adcock, Charles Gravitt, P. W. Townsend, Tom Caldwell, W. M. Hamilton, John Irby, J. H. Harreld, Jr., Ira C. Vickers, Walter S. Bomar and Terry M. Southern.

### NEW JERSEY PHARMACEUTICAL ASSOCIATION.

The *Mimeo* recently issued by the New Jersey Pharmaceutical Association, in an appeal for the interest of New Jersey pharmacists for price-maintenance legislation support, says:

"The Kelly-Stephens Bill and the Merritt Bill have been introduced in the House of Representatives. These so-called price maintenance measures embody the principles of price standardization which has been endorsed by the National Drug Trade Conference, American Pharmaceutical Association, the N. A. R. D., practically every State pharmaceutical association, and about 600 trade bodies. This principle has been approved by the Federal Trade Commission and Secretary of Commerce Herbert Hoover."

### OFFICERS OF ARIZONA PHARMACEUTICAL ASSOCIATION.

The officers elected by the recently organized Arizona Pharmaceutical Association are as follows: President, A. G. Crouch, of Douglas; secretary-treasurer (reëlected), Arthur G. Hulett, Phoenix; executive committee—E. C. Mason, Phoenix; Hugh Gardner, Chandler; Charles Freericke, Prescott; E. C. Stultz, Phoenix; Charles E. MacMillian, Ray. The executive committee will appoint fourteen vice-presidents, one for each county.

### OFFICERS AMERICAN CHEMICAL SOCIETY.

Dr. Leo Hendrick Baekeland, honorary professor of chemical engineering in Columbia University, has been elected president of the American Chemical Society for 1924.

Dean H. P. Talbot, of the Massachusetts Institute of Technology, and George D. Rosengarten, of Philadelphia, were reëlected directors, and Dr. C. A. Browne, Washington, Prof. H. N. Holmes, Oberlin College, Prof. L. W. Jones, Princeton University, and H. S. Miner, Gloucester, N. J., were named councilors-at-large.

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## THE PHARMACIST AND THE LAW.

### ALABAMA LEGISLATION.

On September 27, Governor Brandon of Alabama approved House Bill No. 423 entitled, "An act to regulate the sale, giving away, or other disposition of drugs, medicines or poisons in this State and to provide for the creation of a Board of Pharmacy for service in connection with such sale, giving away or other disposition." Chief changes in the law are:

On and after January 1, 1927, an applicant for a certificate as a licensed pharmacist shall be a graduate of a College of Pharmacy holding membership in the American Conference of Pharmaceutical Faculties. On and after January 1, 1927, no assistant's license as a Pharmacist shall be issued. The per diem of the members of the State Board of Pharmacy is raised from $5 to $10. The Section on Narcotics is brought into conformity with the provisions of the Harrison Anti-Narcotic Law.

### METRIC STANDARDS BILL INTRODUCED IN CONGRESS.

Among the first bills introduced in the new session of Congress are the Metric Standards Bills, providing for gradual adoption of the metric units of weights and measures in merchandising.

The metric bill was introduced in the House of Representatives by Hon. Fred A. Britten of Illinois, and in the Senate by Hon. Edwin F. Ladd of North Dakota. The legislatures of these States, in company with many others, have petitioned Congress to enact metric standards laws. More than 100,000 petitions, directly representing several millions of voters, are pending before Congress, urging favorable action on adoption of the world units for weighing and measuring.

The simple decimal nature of the metric system is ingeniously stressed in the numbers of the metric bills themselves—Congressman Britten's being number 10 in the House and Senator Ladd's bill number 100 in the Senate.

According to the provisions of the Britten-Ladd bill, the buying and selling of goods, wares and merchandise will be in terms of the metric units after a period of 10 years. Manufacturers are to use whatever measures they choose in production, the bill providing "That nothing in this act shall be understood or con-

strued as applying to the construction or use in the arts, manufacture or industry of any specification or drawing, tool, machine, or other appliance or implement designed, constructed or graduated in any desired system." This safeguards manufacturing interests. Hundreds of great industrial concerns are urging the metric legislation on this basis.

Rules and regulations for the enforcement of the Metric act are to be made and promulgated by the United States Secretary of Commerce.

### DYE CASE DECISION.

Declaring that he could find no ground on which to set aside the sale of German dye and chemical patents to the Chemical Foundation, Inc., by the Alien Property Custodian, Judge Hugh M. Morris, in the Federal District Court at Wilmington, Del., January 3, dismissed the government's bill of complaint in the famous dye patents' suit.

An appeal to the Supreme Court of the United States is to be taken by the government from the decision of Judge Morris. Alien Property Custodian Thomas W. Miller declared, following the decision, that "it is to the interests both of the plaintiff and the defendant to have the question of title to the patents determined. It will be a benefit to American users of the patents to have their ownership settled once for all."

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## BOOK NOTICES AND REVIEWS.

*"Youngken's Pharmaceutical Botany,"* 4th edition, revised and enlarged, 263 illustrations and a Glossary. 12mo. XIX + 538 pages. Cloth, $4.00; by H. W. Youngken, M.S., Ph.D. Professor of Botany, Pharmacognosy and Materia Medica, Mass. College of Pharmacy. Author of "A Textbook of Pharmacognosy." P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia.

Each revision and edition of "Youngken's Pharmaceutical Botany" emphasizes the fact that this work as a text in pharmaceutical and science schools is attaining an increasing popularity. The text presents first the life history of the fern, a gymnosperm and an angiosperm which very nicely introduces the great fundamentals of botany. This is followed by a splendidly prepared section on the histologic and morphologic anatomy of plants covering nearly 200 pages. Then follows an excellent presentation of taxonomy, one of the interesting features being that under each order is grouped a list of the official and unofficial drugs that are obtained from plants of the order. The work is completed with a short discussion of ecology. The present revision has enlarged and increased the value of certain chapters, namely, Chapter I on The Fundamental Considerations where a list of standard microchemical reagents used in food and drug work together with formulas for their preparation has been included and the chapter on Plant Organs and Organisms, where the subject matter on roots, rhizomes, leaves, seeds and seedlings has been amplified, especially with reference to plant physiology. The chapter on ecology now presents a full description of the carniverous plants which subject has been considerably enlarged in this revision.

E. N. GATHERCOAL.

**A number of Book Reviews will appear in February issue.**

### PUBLICATIONS RECEIVED.

*Pennsylvania Pharmaceutical Association:* Proceedings of the 46th annual meeting held at Bedford Springs, June 12–14, 1923, and list of officers and members of the Traveling Men's Auxiliary.

*Minnesota State Pharmaceutical Association:* Proceedings of the 39th annual convention held at St. Paul, Feb. 20–23, 1923, also containing the 23rd annual report of the Commercial Travelers' Auxiliary.

*Nebraska Pharmaceutical Association:* Report of the proceedings of the 42nd annual session held at Hastings, June 12–14, 1923; report of the Ladies' Auxiliary, officers and membership; and list of the registered pharmacists of Nebraska (list dated Sept. 1, 1923).

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## ARSENO-TUNGSTIC ACID AS AN ALKALOIDAL REAGENT.

BY GEORGE D. BEAL AND EDWIN R. LITTMAN.

In this preliminary note, the preparation of arseno-tungstic acid by a modified method is described, also some evidence given for the existence of two forms of this acid. The ammonium salt in acid solution was found to precipitate a number of organic bases, including the main alkaloids of cinchona bark, in most instances practically quantitatively.